

SCHOOL BUS REGULATIONS

ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF TRAFFIC SAFETY BUREAU OF SAFETY PROGRAMS

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TITLE 92: TRANSPORTATION
CHAPTER I: DEPARTMENT OF TRANSPORTATION
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PART 440
MINIMUM SAFETY STANDARDS FOR CONSTRUCTION
OF TYPE I SCHOOL BUSES

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AUTHORITY: Implementing Article VIII of Chapter 12 and authorized by Section 12-812 of the Illinois Vehicle Code [625 ILCS 5/Ch. 12, Article VIII].

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SUBPART A: INTRODUCTION**Section 440.10 Order**

The Department, through its Division of Traffic Safety, has the responsibility to ensure that the public and private agencies engaged in the transportation of passengers on school buses are cognizant of and meet minimum safety standards related to vehicle construction.

Section 440.20 Guidelines

This Part provides:

- a) General information on the appropriate portions of the Illinois Vehicle Code [625 ILCS 5], the applicability of the standards to public and private agencies, the purpose of the standards and the scope of the standards.
- b) Definitions of terms used in this Part.
- c) Requirements for manufacturer's certification related to federal and State standards.
- d) Federal and State standards applicable to the bodies of school buses.
- e) Federal and State standards applicable to the chassis of school buses.

(Source: Amended at 22 Ill. Reg. 19354, effective October 15, 1998)

Section 440.30 Responsibilities

The Bureau of Safety Programs, Division of Traffic Safety, is responsible for enforcement of these standards.

SUBPART B: GENERAL**Section 440.110 Purpose**

These standards are intended to heighten the safety of school bus passengers in compliance with the oft-expressed desires of parents and other promoters of school bus safety features.

Section 440.120 Scope

These standards show the basic federal motor vehicle safety standards that must be met and in addition set forth certain minimum requirements established by the State to govern aspects not governed by the federal motor vehicle safety standards. In compliance with the desires of school bus owners and operators, some of the State requirements relate to bus traffic characteristics and to durability and maintenance rather than to safety.

Section 440.130 Applicability

These standards apply to the construction of any new Type I School Bus obtained by a person or organization for operation on the public roads in Illinois. Requirements for body and chassis are stated separately, in order to facilitate application of the standards to be commonly used body-on-chassis bus. In the case of an integral type bus the body and chassis requirements (Subpart E & F) should be read together as one set of requirements. In any case, these standards apply to the completed bus.

Section 440.140 Effective Date

These standards become effective July 1, 1977, on each incomplete vehicle manufactured on or after April 1, 1977, and on each component either assembled to or altered on such incomplete vehicle so as to construct a school bus; provided, however, a new school bus constructed of an incomplete vehicle manufactured before April 1, 1977, may not be sold or used in Illinois if its final stage of manufacture is completed after October 1, 1977.

(Source: Amended at 22 Ill. Reg. 19354, effective October 15, 1998)

Section 440.150 Quantified Requirements

Nearly all quantified requirements are stated in SI (metric) units as well as U.S. customary units. Where a requirement stated in U.S. customary units is not identical to the requirement stated in SI units, the SI requirement shall prevail.

SUBPART C: DEFINITIONS**Section 440.205 Dictionary Used**

Words and terms are used in the appropriate meaning defined in Webster's Third New International Dictionary of the English Language unless a different meaning is referred to or stated herein below.

Section 440.210 Federal Definitions

Terms are used as defined in 49 CFR 567, 568, or 571.

(Source: Amended at 22 Ill. Reg. 19354, effective October 15, 1998)

Section 440.220 State Definitions

The terms referred to in Section 440.210 are applicable to this Section unless any definitions are displaced either by a statutory definition in 625 ILCS 5 or by a definition found below:

"ANSI" means the American National Standards Institute (11 West 42nd Street, New York, N.Y. 10036).

“Body” means the portion of a bus that encloses the occupant and cargo spaces and separates those spaces from the chassis frame, engine compartment, driveline, and other chassis components, except certain chassis controls used by the driver.

“Body-on-Chassis” means a completed vehicle consisting of a passenger seating body mounted on a truck type chassis (or other separate chassis) so that the body and chassis are separate entities, although one may reinforce or brace the other.

“The Code” means the Illinois Vehicle Code [625 ILCS 5].

“Driver” means *Every person who drives or is in actual physical control of a vehicle.* [625 ILCS 5/1-116]

“Empty Weight” means the “unloaded vehicle weight”; i.e., the weight of a vehicle with maximum capacity of all fluids necessary for operation of the vehicle but without cargo or occupant (49 CFR 571.3), plus 350 lbs allowance for driver and equipment.

“FMVSS” means the Rules and Standard(s) set forth in Part 571 in Title 49 of the Code of Federal Regulations (49 CFR 571) and known as “Federal Motor Vehicle Safety Standards”.

“Forward Control” means a configuration in which more than half of the engine length is rearward of the foremost point of the windshield base and the steering wheel hub is in the forward quarter of the vehicle length (49 CFR 571.3) - includes mid-engine and rear-engine “pusher” buses.

“Gross Vehicle Weight Rating” or (GVWR) means the value specified by the manufacturer as the loaded weight of the school bus. [625 ILCS 5/12-800]

“Incomplete Vehicle” means an assemblage consisting, as a minimum, of frame and chassis structure, power train, steering system, suspension system, and braking system, to the extent that those systems are to be part of the completed vehicle, that requires further manufacturing operations (other than the addition of readily attachable components such as mirrors or tire and rim assemblies or minor finishing operations, such as painting) to become a completed school bus for use in Illinois. (Based on 49 CFR 568.3).

“Integral Type” bus means a completed vehicle either without separate body and chassis or with body and chassis joined into one unit.

“m”, following a numeral, means either “meter” or “meters.”

“mm”, following a numeral, means either “millimeter” or “millimeters.”

“Manufacturer” (unless otherwise indicated at the point of use) means the person or organization whose name follows “MANUFACTURED BY” OR “MFD BY” on the label required in Section 440.310.

“Multiple Glazed Unit” means two or more sheets of safety glazing material separated by air space(s) and assembled in a common mounting (ANSI Z26.1-1996).

“Passenger” means every bus occupant who is not the driver.

“SAE” means the Society of Automotive Engineers (400 Commonwealth Drive, Warrendale, Pennsylvania 15096).

“School Bus” -

Type I School Bus - A School Bus with gross vehicle weight rating of more than 10,000 pounds.

Type II School Bus - A School Bus with gross vehicle weight rating of 10,000 pounds or less. [625 ILCS 5/12-800]

Every motor vehicle, except as provided below, owned or operated by or for any of the following entities for the transportation of persons regularly enrolled as students in grade 12 or below in connection with any activity of such entity:

*Any public or private primary or secondary school;
Any primary or secondary school operated by a religious institution; or
Any public, private or religious nursery school.*

This definition shall not include the following:

A bus operated by a public utility, municipal corporation or common carrier authorized to conduct local or interurban transportation of passengers when such bus is not traveling a specific school bus route but is:

On a regularly scheduled route for the transportation of other fare paying passengers;

Furnishing charter service for the transportation of groups on field trips or other special trips or in connection with other special events; or

Being used for shuttle service between attendance centers or other educational facilities.

A motor vehicle of the first division.

A motor vehicle designed for the transportation of not less than 7 nor more than 16 persons that is operated by or for a public or private primary or secondary school, including any primary or secondary school operated by a religious institution, for the purpose of transporting not more than 15 students to and from interscholastic athletic or other interscholastic or school sponsored activities. [625 ILCS 5/1-182]

“SI” means “Système International d’Unités” (International System of Units); officially abbreviated SI in all languages; the “modernized metric system” defined in ANSI IEEE-ASTM-SI-10-1997.

The symbol “, following a numeral, means either “inch” or “inches.”

“Type I-A school bus” means a term commonly used by school bus manufacturers to classify a certain type of school bus that is a conversion or body constructed upon a van-type or cutaway front-section vehicle with a left side driver’s door, designed for carrying more than 10 persons. The Type I-A school bus has a Gross Vehicle Weight Rating (GVWR) of more than 10,000 pounds.

(Source: Amended at 24 Ill. Reg. 12111, effective July 31, 2000)

SUBPART D: CERTIFICATION

Section 440.305 Certification by Manufacturer

The manufacturer shall certify the bus conforms to the applicable federal standards in effect on the first day of the month shown in the statement, “This Vehicle Conforms To All Applicable Federal Motor Vehicle Safety Standards In Effect in (month, year)” on the label required under Section 440.310. The manufacturer must also certify that the bus conforms to all applicable State standards. (See Section 440.320.) The certification shall be present in the bus when delivered to the purchaser as well as when submitted to the safety test conducted under provisions of Section 13-109 of the Code [625 ILCS 5/13-109].

(Source: Amended at 22 Ill. Reg. 19354, effective October 15, 1998)

Section 440.310 Federal Standards

The manufacturer, and all incomplete vehicle and intermediate manufacturers, shall comply with the applicable provisions of Part 567, “Certification”, and Part 568, “Vehicles Manufactured

in Two or More Stages”, in Title 49 of the Code of Federal Regulations (49 CFR 567 & 568), including the permanent affixing of a label in conformance with the above mentioned federal regulations. This label shall constitute the manufacturer’s certification to the People of the State of Illinois that the bus conforms to all applicable provisions of the Federal Motor Vehicle Safety Standards (49 CFR 571).

Section 440.320 State Standards

The manufacturer shall prepare a certification bearing his name, identifying the bus by Vehicle Identification Number (VIN), and stating the bus conforms to all applicable provisions of “Illinois Minimum Safety Standards for Construction of Type I School Buses” in effect on the first day of (month and year appearing in the statement quoted in Section 440.305, above or a later month). This certification shall be in the form of an additional label manufactured, lettered, and affixed in the same manner and location as the label required in Section 440.310, above.

SUBPART E: BODY REQUIREMENTS

Section 440.405 Conformance to the Requirements

At the time of the safety test conducted under provisions of Section 13-109 of the Code [625 ILCS 5/13-109], and when delivered to the purchaser, the body of each Type I School Bus shall conform to the requirements stated or referred to in this Subpart. Some chassis requirements also applicable to the body are stated or referred to herein.

(Source: Amended at 22 Ill. Reg. 19354, effective October 15, 1998)

Section 440.410 Incorporation by Reference of Federal Motor Vehicle Safety Standards

- a) Each bus body must conform to the applicable provisions of the Federal Motor Vehicle Safety Standards (FMVSS) (49 CFR 571.101 through 571.304). Those applicable provisions of the FMVSS are incorporated by reference as that Subpart of the FMVSS was in effect on October 1, 2000. No later amendments to or editions of 49 CFR 571.101 through 571.304 are incorporated.
- b) Each school bus must conform to the applicable standards of the Society of Automotive Engineers Handbook (SAE) (Volume 2 Sections 15-26). Those applicable provisions of the SAE standards are incorporated by reference as of the 1998 edition date. No later amendments to or editions of the SAE standards are incorporated.

(Source: Amended at 26 Ill. Reg. 3219, effective February 19, 2002)

Section 440.420 State Requirements

Except for mirrors, which may project 153 mm (6”) beyond each side of the bus, a school bus shall not exceed 2.44 (8 feet) in width, 4.12 m (13 feet 6 inches) in height, nor 12.81 m (42 feet)

in length) [625 ILCS 5/15-102, 15-103 and 15-107] Each bus body shall be constructed so as to preclude road splash, road dust, or the bus engine's fumes or gas entering either the driver, passenger, or service entrance space through any joint, crack, hole, or opening other than an opened door or window. In addition, various portions of the bus body shall conform to the requirements set forth under the following subsections.

- a) Aisle. An aisle, easily negotiated ("easily negotiated" means that an aisle meets the dimension requirements set forth in this subsection from front of bus to back of bus) and free of tripping hazards ("tripping hazards" are tears, wrinkles and other imperfections in the floor covering material, or the floor itself causing the walking surface to be uneven), shall extend from the forward edge of the service entrance stairway to the emergency door in the rear of the bus or, when such door is absent, to the forward edge of the rearmost seat. This aisle shall be no less than 305 mm (12") wide at every location between floor covering and the top of each seat cushion and, in a bus manufactured in July 1987 or later, shall be no less than 380 mm (15") wide at and above a level 50 mm (2") below the top of any seat back. At least 1.75m (68.9") floor-to-ceiling height shall be provided above the entire required width of this aisle between the forward edge of the rearmost seat and the forward edge of the service entrance stairway. A dedicated aisle that conforms to 49 CFR 571.217 may be adjacent to any side emergency door.
- b) Battery. Either one battery or two or more suitably connected batteries may be installed.
 - 1) When rated in conformance with SAE Standard J537h the battery(s) shall provide a current flow for engine cranking no less than the engine manufacturer's recommended Cold Cranking Current (amperes for 30 seconds) at -18° C (0° F) or, at the purchaser's option, at -29° C (-20° F).
 - 2) When rated in conformance with SAE Standard J537h the battery(s) shall provide a Reserve Capacity (duration of 25 ampere current flow) at 27° C (80° F) no less than 135 minutes.
- c) Battery Carrier. When the battery is mounted outside the engine compartment it shall be attached securely in a closed, weather-tight, and vented compartment that is located and arranged so as to provide for convenient routine servicing. The battery compartment door, or cover, shall be secured by an adequate manually operated latch(es) or other fastener(s). Each electrical cable connecting the battery(s) in this carrier to the body or chassis shall be one-piece between the battery terminal connector and the first body or chassis terminal connector.
- d) Bumper, Rear. The rear bumper shall be of channel type cross section with the top edge at least 225 mm (8.9") above the bottom edge, shall be formed from rolled steel at least 4.55 mm (.18") thick, and shall wrap around the rear corners of the body to a point at least 300 mm (11.8") forward of the rearmost point of the

body at floor line. The rear bumper shall be attached to the chassis frame with provisions for removal by means of commonly available hand tools and the prevention of hitching-to or riding thereon. The rear bumper shall be of sufficient strength to permit the bus being pushed by another vehicle without permanent distortion.

- e) Capacity, Passenger. *The vehicle maximum passenger capacity recommended by the manufacturer of the bus shall be based upon a provision for 13 inches of seating space for each passenger, exclusive of the driver.* [625 ILCS 5/12-802]
Examples: A seat 990 mm (39") in width provides 3 passenger spaces; A seat 985 mm (38.8") in width provides 2 passenger spaces; A device resembling a seat but less than 330 mm (13") in width would not provide a passenger space. Neither a space not conforming to FMVSS 222 nor the driver's space shall be counted as a passenger space. However, any space used for transporting an orthopedically challenged passenger shall be counted as a passenger space when computing passenger capacity to be displayed on the exterior of the bus as required in subsection (t)(7).
- f) Certificate and Registration Card Holder. At least 1 card holder with a transparent face no less than 150 mm by 100 mm (5.9" by 3.9") shall be securely affixed to the interior header panel out of the students' easy reach.
- g) Color and Paint, Exterior. *The exterior of each school bus shall be national school bus glossy yellow except as indicated in subsections (g)(1) - (6):*
 - 1) *The rooftop may be white.* Optional white roof shall terminate at any point from top of drip rail to 6" above drip rail. The front and rear roof caps shall remain national school bus glossy yellow.
 - 2) *Body trim, rub rails, lettering other than on a stop signal arm and bumpers shall be glossy black* (Federal Standard No. 595a, glossy black enamel No. 170381).
 - 3) *Lettering on a stop signal arm shall be white on a red background.*
 - 4) *The hood and upper cowl may be lusterless black* (595a, 37038) *or lusterless school bus yellow.*
 - 5) *Grilles on the front, lamp trim and hubcaps may be a bright finish.* Wheels and rims may be black or gray.
 - 6) *The name or emblem of a manufacturer may be colorless or any color.*
 - 7) *The exterior paint of any school bus shall match the central value, hue and chroma set forth in this Part.* [625 ILCS 5/12-801]

- 8) Each opening for a required emergency exit window or door must be outlined around its exterior perimeter with, at a minimum, 1 inch (2.54 cm) wide yellow retroreflective tape. All retroreflective tape must be on the exterior surface of the bus and conform to all requirements of 49 CFR 571.217. Emergency roof exits may be outlined in either yellow or white retroreflective tape.
- 9) Yellow retroreflective tape can be located on the rear bumper provided the space between the top of the bumper and the bottom of the rear emergency exit door is not adequate to accommodate the tape.

AGENCY NOTE: To be certain of glare reduction, a purchaser should specify a lusterless paint.

h) Crossing Control Arm:

- 1) Must meet or exceed SAE J1133.
- 2) Must be capable of full operation between, and including, the temperatures -40 degrees F and 160 degrees F.
- 3) The arm, when activated, must extend a minimum of five feet from the front face of the bumper.
- 4) The arm must be mounted on the far right side (entry side) of the front bumper.
- 5) Appropriate brackets shall be used to attach the arm to the front bumper for proper operation and storage.
- 6) All component parts must meet or exceed any applicable federal motor vehicle safety standards in effect at the time of manufacture.
- 7) The arm must extend at the same time the stop arm panel extends. An independent "on/off" switch is prohibited.
- 8) If the driver can stop the arm from extending with the use of an optional override switch, the arm sequence must automatically reset once the service door is closed.
- 9) Red lights and/or red reflectors are prohibited.

- i) Defrosters. Defrosting equipment shall be installed so as to help keep the window to the left of the driver and the glass in the service door clear of fog or frost. This defrosting equipment shall conform to those FMVSS 103 (49 CFR 571.103) performance requirements that are applicable to school bus windshields.

- j) Emergency Exits. All emergency exits shall conform to the applicable requirements of FMVSS 217 (49 CFR 571.217).
- 1) Each emergency exit shall be equipped with an interior opening device that may be quickly released but that is designed to offer protection against accidental release. Each exterior release handle must be nonhitchable.

AGENCY NOTE: "Nonhitchable" is defined as the rear of the bus being designed and maintained to prevent or discourage riding or grasping rear of bus so as to "hitch" rides.

- 2) Each opening for a required emergency exit window or door must be outlined around its exterior perimeter with, at a minimum, 1 inch (2.54 cm) wide yellow retroreflective tape. All retroreflective tape must be on the exterior surface of the bus and conform to all requirements of 49 CFR 571.217. Emergency roof exits may be outlined in either yellow or white retroreflective tape.
 - 3) Both audible and visible alarms shall alert the driver when the engine is running and any emergency exit door either:
 - A) Is not fully latched, or
 - B) Is locked and not readily operated manually.
 - 4) An audible alarm shall alert the driver when the engine is running and any emergency exit window either:
 - A) Is not fully latched, or
 - B) Is locked and not readily operated manually.
 - 5) The engine starting system shall not operate while any emergency exit door or window (optional or required) is locked from either inside or outside the bus. "Locked" means that the release mechanism cannot be activated and the exit cannot be opened by a person at the exit without a special device such as a key or special information such as a combination.
 - 6) An alarm cut-off or "squench" control is prohibited.
 - 7) Exception: No alarm is required for roof hatches.
- k) Fire extinguisher.

AGENCY NOTE: At least one fire extinguisher must be carried in each school bus transporting pupils but the purchaser may elect to install an extinguisher that conforms to the requirements below after the bus is purchased.

The fire extinguisher shall be of the dry chemical type, with pressure gauge, mounted in a quick-release bracket of automotive type located in view of and readily accessible to the driver, except when carried in the locked compartment authorized under subsection (u) below. The fire extinguisher shall be of a type approved by the Underwriters' Laboratories, Inc., with a rating not less than 10-BC. The operating mechanism shall be sealed with a type of seal that will not interfere with the use of the fire extinguisher. Halon fire extinguishers (10-BC) are approved.

l) First-Aid Kit.

AGENCY NOTE: A first aid kit must be carried in each school bus transporting pupils but the owner may elect to install a kit that conforms to this subsection after the bus is purchased.

- 1) The first aid kit must be readily identifiable and readily accessible to the driver. The kit must be dust tight and substantially constructed of durable material. If the kit is not carried in the locked compartment as authorized in subsection (u)(2), it must be in view of the driver.
- 2) The first aid kit must include, but is not limited to, the following:
 - A) 4" bandage compress - 2 packages
 - B) 2" bandage compress - 2 packages
 - C) 1" bandage or adhesive compress - 1 package
 - D) 40" triangle bandage with two safety pins - 1
 - E) Splint, wire or wood - 1
- 3) A tourniquet or any type of ointment, antiseptic or other medicine cannot be included.

m) Floor Covering.

- 1) All portions of the floor that come in contact with passengers' or driver's footwear shall be covered with a waterproof material. This floor covering shall not crack when subjected to sudden temperature change and shall be bonded securely to the floor with a waterproof substance. All seams and openings shall be filled with a waterproof sealer.

- 2) The floor covering in the aisles and entrance area shall be of non-skid wear-resistance type material commonly used in commercial passenger transportation vehicles.

n) Fuel System.

The fuel system shall conform to all applicable provisions of FMVSS 301 (49 CFR 301).

o) Glazing Materials.

- 1) The following applies to glazing on Type I school buses:

- A) Laminated safety glass is optional on Type I school buses. All applicable provisions of FMVSS 205 (49 CFR 205) apply to the optional laminated safety glass and also to any plastic material(s) used in multiple-glazed unit, including meeting the pertinent tests indicated below, that are specified in ANSI Standard Z26.1-1996, Z26.1a-1996, and are grouped in Table No. 1 of that Standard. Glazing shall be identified as shown below.

Glazing installed in:	Shall meet tests grouped in Z26.1 Table No. 1 under:	Shall bear one of the following identification markings:
Windshield	Item 1, either laminated glass or multiple glazed unit.	AS 1 Glass;
Window or door forward of rear-most location of driver's seat back		AS 1 Glass or AS 2 Glass;
All Other locations		AS 1 Glass, or AS 2 Glass, or AS 3 Glass.

- B) In addition, any exposed plastic layer of a multiple glazed unit shall be identified in conformance with FMVSS 205 (49 CFR 571.205).

- 2) All glazing shall be installed so the identification markings are legible.

- 3) All glazing in the rear of the bus, except a rear emergency exit window, shall be the fixed type.
- p) Heaters.
- 1) An interior temperature of not less than 10 degrees Celsius (50 degrees F) shall be maintained throughout the bus while the bus is moving at 75 kilometers per hour (46.6 miles per hour) in calm air at the average minimum January temperature, as established by the Weather Bureau, U.S. Department of Commerce, for the area in which the bus is to be operated.
 - 2) Each heater shall bear a nameplate that shall identify the heater manufacturer and state the heater capacity rating when tested as recommended in SAE Recommended Practice J638, or when tested in accordance with other nationally recognized standard or code. The recommended practice, standard, or code under which the heater is rated shall be identified on the nameplate. Such nameplate shall constitute certification by the heater manufacturer that the heater performance is as shown on the plate.
 - 3) Heater hoses shall be supported so as to prevent wear due to vibration. The hoses shall not dangle or rub against the chassis or sharp edges and shall neither interfere with nor restrict the operation of any engine function (such as an emission or ignition control mechanism). Heater hoses shall be protected or baffled between the point at which they enter the passenger compartment and the point of attachment to the heater so that, in the event of hose rupture or disconnection, passengers and/or driver will not be subject to hot water burns.
- q) *Heater Hose Connections at Engine. Each heater hose connection to the engine shall include a shutoff valve located as close to the engine as practical. Such connection and valve shall not interfere with any engine function whether closed, partially open, or fully open, with heater hoses installed properly.*
- r) Interior.
- 1) Thermal and acoustic material(s) shall be installed in the ceiling and the sides of the body to reduce heat transfer and the interior noise level.
 - 2) The passenger compartment of the bus, including the ceiling, shall be free of any visible or concealed projections likely to cause injury. Exposed lapped joints shall be connected and/or treated to reduce likelihood of injury from exposed edges. Materials or components in the passenger compartment located within 59 inches from the floor shall be free of any sharp corner or projections or shall be padded so as to make injury unlikely.

s) Lamps and Signals.

- 1) Alternately Flashing Signal Lamps. Each bus shall be equipped with an eight lamp alternately flashing signal system that conforms to S5.1.4(b) of FMVSS 108 (49 CFR 571.108) and 625 ILCS 5/12-805. A separate circuit breaker and a master switch shall be provided for this signal system. When in its "off" position, this master switch shall prevent operation of the eight lamp system; shall prevent operation of any lamps mounted on the stop signal arm panel required under subsection (hh); and shall prevent operation of any electrically controlled mechanism that would cause the stop signal arm panel to extend. The controls for the eight lamp flashing signals, the stop signal arm panel, and the service entrance door shall be arranged so as to provide for the following sequence of operations while the engine is running:
 - A) Place the alternately flashing signal system master switch in its "off" position. Close and secure the service entrance door. Actuate the alternately flashing signal system hand or foot control. The alternately flashing signal lamps of either yellow (amber) or red color shall not go on.
 - B) With the master switch "off" and the hand or foot control actuated, open the service door. The alternately flashing signals of either color shall not go on and the stop signal-arm panel shall not extend.
 - C) Deactivate the hand or foot control. Place the alternately flashing signal system master switch in its "on" position. Close and secure the service door. Then open the service door. The alternately flashing signal lamps of either color shall not go on and the stop signal arm panel shall not extend.
 - D) Close and secure the service door. Actuate the alternately flashing signal system by hand or foot control. A yellow pilot lamp in the view of the driver and the yellow alternately flashing signals shall go on.
 - E) Desecure but do not open the service door. The yellow pilot and the yellow alternately flashing signals shall go off. A red pilot lamp in the view of the driver and the red alternately flashing signals shall go on. The stop signal arm panel shall extend.
 - F) Fully open the service door. The red pilot and red signals shall remain on and the stop arm shall remain extended.

- G) Close but do not secure the service door. The red pilot and red signals shall remain on and the stop arm shall remain extended.
 - H) Open the service door. The red pilot and red signals shall remain on and the stop arm shall remain extended.
 - I) Close and secure the service door. The red pilot and red signals shall go off and the stop arm shall retract.
 - J) Open the service door. Alternately flashing signals of either color shall not go on and the stop arm shall not extend.
- 2) Interior Lighting. At least the white nosings of the service entrance steps (subsection (ee)(3)), the floor around the stepwell, the entire aisle, and each emergency door and emergency exit shall be illuminated by lamp(s) emitting a white light. At least two interior illumination lamps shall be installed in a bus that provides 330 mm (13") of seating width for each of 33 or more passengers. At least the nosings of the service entrance steps and the floor around the stepwell shall be illuminated automatically by opening of the service door. No lamp shall be installed at or near the eye level of a pupil moving through the service entranceway to the aisle unless such lamp does not shine directly into the eye(s) of any such pupil.
 - 3) Rear Turn Signals. Yellow turn signal lamps shall be mounted on the rear as far apart as practical and as high as practical but below the rear window. The effective projected illuminated area of these turn signal lamps shall be no less than required for the yellow alternately flashing signal lamps required under subsection (s)(1), above; i.e., .0122 m(2) (19 in(2)).
 - 4) Side Turn Signals. Two yellow side turn signal lamps conforming to SAE Recommended Practice J914a, January 1995, shall be installed on each bus of more than 32 passenger seating capacity. Except as indicated in this subsection (s)(4), this SAE Standard shall be read as setting forth mandatory requirements. The lamps shall be "armored" and mounted on the body between the rub rails required under subsection (bb). The right lamp shall be within 1 m (39.4") of the rear of the service entrance but, on a forward control bus, not forward of the front axle. The left lamp shall be approximately the same distance from the front bumper as the right lamp.
 - 5) Stop Signals. Red stop lamps shall be mounted on the rear as far apart as practical but closer to the vertical centerline of the bus than the rear turn signal lamps required under subsection (s)(3), and at the same height as those turn signal lamps. The effective projected illuminated

area of these stop lamps shall be no less than required for the red alternately flashing signal lamps required under subsection (s)(1); i.e., .0122 m² (19 in²).

6) Strobe.

- A) *One per bus;*
- B) *Shall emit white or bluish-white light;*
- C) *Shall be visible from any direction;*
- D) *Shall flash 60 to 120 times per minute;*
- E) *Shall be visible in normal sunlight;*
- F) *Mounted at or behind center of rooftop and equal distance from each side. Distance from rear will be calculated by measuring height of filament and multiplying same by 30 inches (i.e., filament height measured from the base of the strobe x 30 = distance from rear of bus where lamp is to be located). (Section 12-815 of the Code)*
- G) If a roof exit, air conditioner, or the size of the bus interferes with the placement of a strobe as required by (s)(6)(F), the strobe can be placed to the rear of the roof exit or air conditioner as near as practicable above the rear axle, horizontally centered between the rear tires.

t) Lettering.

- 1) General. Except where otherwise required or allowed, lettering on the exterior of the body shall be black against a national school bus glossy yellow background. All required letters and numerals shall conform to Series "B", or heavier series, of the Standard Alphabets for Highway Signs issued by the Federal Highway Administration, Washington, D.C. 20591. Decals may be used instead of paint. Signs, numbers, or letterings, other than those either required by statutes or required or permitted by these standards shall not be affixed permanently on either the exterior of the bus or the interior glazing so as to be visible to the outside. Interior lettering shall contrast with its background.
- 2) The words "SCHOOL BUS" shall be displayed against a national school bus glossy yellow background as high as practical and approximately centered on the front and rear of the bus body, in letters at least 200 mm (8") high (see Section 12-802 of the Code). These words may be painted on or applied to the bus body or displayed on a sign firmly

attached to or built into the body. The background of an illuminated sign shall approximate the national school bus glossy yellow color as closely as feasible.

- 3) A school bus identification number, supplied by the purchaser, shall be displayed as high as practical on the front and rear of the bus in numerals not less than 100 mm (4") high. Such number may be displayed on the sides of the bus as specified by the purchaser.
- 4) *Either the owner's name or the school district number or both must be displayed on both sides of the bus at least four inches high, approximately centered and as high as practicable below the window line.* (Section 12-802 of the Code) The lettering must be located on one line.
- 5) The body and/or chassis manufacturer's name, emblem, or other identification may be displayed, colorless or in any color, on any unglazed surface of the bus so as not to be mistaken for the name required in subsection (t)(4) above, and so as not to interfere with any required letters or numerals.
- 6) The words "EMPTY WEIGHT", or the abbreviation "EMPTY WT.", or the letters "E.W.", followed by the empty weight of the bus, as defined in Section 440.220, stated in pounds, shall be displayed on the exterior of the body near the rear edge of the service entrance in numerals and letters at least 50 mm (2") high (see Section 12-802 of the Code).

Examples: EMPTY WEIGHT 16,800 lb E.W. 16,800 lb

- 7) The word "CAPACITY", or the abbreviation "CAP.", and the rated passenger capacity (see subsection (e) of this Section) followed by the word "PASSENGERS", or the abbreviation "PASS.", shall be displayed on the exterior of the body near the rear edge of the service entranceway, and on the interior above the right portion of the windshield, in numerals and letters at least 50 mm (2") high (see Section 12-802 of the Code).
- 8) The words "NO STANDEES" shall be displayed only on the interior above the windshield, approximately opposite the aisle but to the right of the mirror and sun visor, in letters at least 50 mm (2") high.
- 9) The words "EMERGENCY DOOR" or "EMERGENCY EXIT" in letters at least 5 cm high must be displayed on the interior and exterior of the bus. "EMERGENCY DOOR" must be displayed at the top of, or directly above, any emergency exit door. "EMERGENCY EXIT" must be displayed at the top of, or directly above, or at the bottom of, any emergency exit window. They may be displayed on a separate colorless background (such as

white, aluminum, or silver) that extends no more than 15 mm (.6") above or below the words and no more than 25 mm (1") to the right or left of the words.

- 10) A black arrow, curved or straight, at least 150 mm (5.9") in length and 15 mm (.6") in width, showing the direction each exterior emergency exit release mechanism is to be moved to open the emergency exit, shall be painted or permanently affixed on the exterior yellow portion of the bus within 150 mm (5.9") of each release mechanism.
- 11) An arrow showing the direction each interior emergency exit release mechanism is to be moved to open the emergency exit shall be painted or permanently affixed on the interior of the bus within 150 mm (5.9") of each emergency exit release mechanism. Each interior arrow shall contrast with its background and, where suitable space is limited, may be smaller than the exterior arrow(s) but must be conspicuous.
- 12) Alternate Fuel
 - A) *If the bus uses alternate fuel (e.g., propane, CNG), the vehicle must be marked with an identifying decal. Such decal shall be diamond shaped with white or silver scotchlite letters one inch in height and a stroke of the brush at least 1/4 inch wide on a black background with a white or silver scotchlite border bearing either the words or letters:*

"PROPANE" = If propelled by liquefied petroleum gas other than liquefied natural gas; or

"CNG" = If propelled by compressed natural gas. The sign or decal shall be maintained in good legible condition.
 - B) *The alternate fuel decal shall be displayed near the rear bumper and visible from the rear of the vehicle. (Section 12-704.3 of the Code)*
- 13) The vehicle's length (rounded up to nearest whole foot) must be displayed on or adjacent to the interior bulkhead clearly within the driver's view. (For example: vehicle length of 39.1 feet will be displayed as 40 feet.) Each letter or numeral must be at least two inches high and black in color. The measurement must be taken from the front bumper to the rear bumper.
- 14) A "Stop Line" in contrasting color is required between 5.9 and 6.1 inches below the top of each side window opening. The line shall be located between each window that slides downward.

- u) Locked Compartment (Optional). If specified by the purchaser, a lockable compartment may be installed for storage of fire extinguisher, first-aid kit, warning devices, wheel chocks, or other items.
 - 1) The compartment locking device shall be connected with an automatic audible and visible alarm that will alert the driver when the engine is running and the compartment is locked. No alarm disconnect, "squelch control", or other alarm defeating mechanism shall be installed.
 - 2) A red cross, formed of five equal squares, and the words "FIRST-AID KIT" shall be displayed on the compartment door, or cover, if the first-aid kit is to be carried in the locked compartment.
 - 3) The words "FIRE EXTINGUISHER" shall be displayed on the compartment door, or cover, if the fire extinguisher is to be carried in the locked compartment.
- v) Metal Treatment.
 - 1) Unless excluded below, all steel or iron used in construction of the bus body and attached equipment shall be either resistant to atmospheric corrosion, or zinc coated, or treated by equivalent process. Particular attention shall be given to each fastener or attaching device, lapped surface, welded connection or fastening, cut edge, punched or drilled hole, surface subjected to abrasion, closed or box section, and any unvented or undrained area or space. The number of unvented or undrained areas or spaces is to be minimized. Excluded are door handles, grab handles, and interior decorative parts.
 - 2) As evidence that above requirements have been met, a sample of fastener, material, or section of body, coated or finished as installed in the bus, when subjected to a 1,000-hour salt spray test in accordance with American Society for Testing and Materials (ASTM) Standard B-117-1997 "Method of Salt Spray (Fog) Testing" shall not exhibit more than 10 percent reduction in weight after all adherent corrosion products are removed.
- w) Mirrors.
 - 1) Interior Mirror - A mirror that measures at least 6 inches x 30 inches overall shall be located inside the bus. The mirror shall afford the operator a good view of the bus interior and portions of the roadway to the rear. It shall be firmly supported, constructed of clear-view safety glass and securely backed and framed. It shall have rounded corners. Edges shall be padded to reduce danger of injury upon impact. Exception: For buses that meet the definition of a Type I-A school bus,

as defined in Section 440.220, the interior mirror may meet manufacturer's specifications.

- 2) All exterior mirror systems shall conform to the applicable requirements of FMVSS 111 (49 CFR 571.111).
 - 3) More convex mirrors than required above may be installed, if specified by the purchaser.
 - 4) The reflecting surface on the backside of each mirror glass shall be protected from abrasion, scratching, and atmospheric corrosion.
- x) Mounting of Body. This subsection does not apply to an integral type bus.
- 1) After the date of manufacture of the incomplete vehicle, the chassis frame shall not be altered so as to extend the wheelbase. Other extension(s) of the chassis frame may be accomplished only by the incomplete vehicle, intermediate, or final-stage manufacturer or by an agent of such manufacturer properly instructed and authorized by such manufacturer to make such extension(s).
 - 2) Insulating material shall be placed at all mounting points between the body and chassis frame. This material shall be at least 5 mm (.2") thick, may have the quality of the sidewall of an automobile tire, and shall be so secured that it will not move, vibrate, or "crawl" out of place during normal operations.
 - 3) The body front shall be attached and sealed to the chassis cowl so as to prevent the entry of water, dust, or fumes through the joint between the chassis cowl and the body.
- y) Radio Noise. Radio/stereo speakers must be located at least four feet behind the rearmost position of the driver's seat.

AGENCY NOTE: Two-way communication radios are allowed.

z) Rack, Book. Not permissible.

aa) *Reflectors.*

1) Front

- A) *Two yellow rigid or sheet type (tape) front reflex reflectors shall be attached securely and as far forward as practicable.* (Section 12-202 of the Code) They shall be located between 15 and 60 inches above the roadway at either fender, cowl, or body and installed so as to mark the outer edge of the

maximum width of the bus. No part of the required reflecting material may be obscured by a lamp, mirror, bracket, or any other portion of the bus. No part of the required reflecting material may be more than 11.8 inches (300 mm) inboard of the outer edge of the nearest rub rail. The reflector may be any shape (e.g., square, rectangle, circle, oval, etc.). A rigid type reflex reflector may be any size if permanently marked either DOT, SAE A, or SAE J 594; otherwise, it shall display at least seven square inches of reflecting material (about three inch diameter if a solid circle).

- B) A sheet type (tape) reflex reflector which conforms to FMVSS 108 (49 CFR 571.108 (S5.7.1.2)) may be used but its forward projected reflecting area shall be at least eight square inches.

2) Left Side

One amber no more than 12 inches from the front and one red no more than 12 inches from the rear. Mounted at a height not less than 15 inches and not more than 60 inches above the surface of the road.

(Section 12-202 of the Code) On buses 20 feet or more in length, one amber reflector as near center as practicable must also be provided. The reflector must measure a minimum of three inches in diameter.

3) Right Side

One amber no more than 12 inches from the front and one red no more than 12 inches from the rear. Mounted at a height not less than 15 inches and not more than 60 inches above the surface of the road.

(Section 12-202 of the Code) On buses 20 feet or more in length, one amber reflector as near center as practicable must also be provided. The reflector must measure a minimum of three inches in diameter.

4) Rear

Two red reflectors on rear body within 12 inches of lower right and lower left corners. (Section 12-202 of the Code) The reflectors must measure a minimum of three inches in diameter.

bb) Rub Rails.

- 1) Each rub rail shall be 4" or more in width in its finished form, shall be constructed of 16-gauge steel or suitable material of equivalent strength and shall be constructed in corrugated or ribbed fashion.
- 2) There shall be one rub rail located approximately at seat level that shall extend from the rear of the service entrance completely around the

exterior of the bus body without interruption, except at a rear emergency door or a rear compartment, to a point of curvature near the front of the body on the left side.

- 3) There shall be one rub rail on each side located approximately at floor line that shall extend over the same longitudinal distance as the rub rail required under subsection (bb)(2), except:
 - A) This rub rail need not extend across a wheel housing, and
 - B) This rub rail may terminate at the radii of the right and left rear corners of the body.
 - 4) More than two rub rails may be installed on a side and/or the rear of a bus.
- cc) Seating. Each seat and each barrier are required to conform to FMVSS 222 (49 CFR 571.222).
- 1) Seat, Driver's. The driver's seat shall be rigidly positioned, and shall afford both vertical and fore-and-aft adjustments of not less than 100 mm (3.9"), without the use of a tool or other non-attached device. The shortest distance between the steering wheel and the back rest of the operator's seat shall be no less than 280 mm (11").
 - 2) Seats, Students'.
 - A) Each seat (except as provided in subsection (cc)(4)) shall be constructed so that the shortest straight-line distance from the top of the seat back to the empty seat cushion is 28" when measured near the transverse center of the seat at the front of the seat back and along the angle of rearward inclination of the seat back. Since the height of a seat back is difficult to measure precisely on a repeated basis, a measurement of 27.5" or more is deemed acceptable.
 - B) Each seat shall be forward facing (except as provided in subsection (cc)(4)).
 - C) A flip-up seat may be located only immediately adjacent to any side emergency door. The flip-up seat must conform to the following:
 - i) The seat must be designed so that, when in the folded position, the seat cushion is flat against the seat back to prevent a child's limb from becoming lodged between the seat cushion and seat back.

- ii) The seat must be designed to discourage a child from standing on the seat cushion when in the folded position.
 - iii) The working mechanism under the seat must be covered to eliminate any tripping hazard.
 - iv) All sharp metal edges on the seat must be padded to prevent any snagging hazard.
 - v) No portion of the door latch mechanism can be obstructed by a seat.
 - vi) There must be at least 11.7 inches (30 cm) measured from the door opening to the seat back in front.
- D) Optional seat safety belts must be installed according to specifications provided by the bus body manufacturer. This may include reinforced seats and seat frames.
- 3) Barriers, Students'. The vertical distance from the floor covering to the top of a barrier positioned in front of a student's seat (as required by 49 CFR 571.222) shall measure not less than the vertical distance from the floor covering to the top of the seat back on the seat installed behind that barrier.
- 4) In the case of a seat to be occupied by a student with special needs, the seat back, forward facing, and barrier requirements of subsections (cc)(2) and (3) shall be changed only as necessary to meet the needs of the student with special needs (e.g., seat missing to accommodate wheelchair, hard surfaced stretcher installed to accommodate child who is not capable of sitting in an upright position) (see 92 Ill. Adm. Code 444).
- dd) Seat Belt, Driver's.
 - 1) Each driver's seat belt assembly shall be arranged so that all portions of the assembly remain above the floor when not in use. If retractor(s) are installed, they shall be of the automatic locking type.
 - 2) Buses must be equipped with a lap belt/shoulder harness design for the driver.
- ee) Service Entrance and Door.
 - 1) The service entrance shall be located on the right side near the front, in unobstructed and convenient view of the driver. The service entrance

shall have a minimum vertical opening of 1.7 m (67") and a minimum horizontal opening of 610 mm (24").

- 2) A steel grab handle not less than 250 mm (9.8") in length shall be firmly attached in an unobstructed location on the left side of the entranceway as a person enters the bus.
- 3) The bottom step in the entranceway shall not extend beyond the exterior of the body. With all seats empty, the bottom step shall be not less than 300 mm (11.8") and not more than 400 mm (15.7") from the roadway. At least two steps shall be provided. The steps shall be enclosed. Risers shall be approximately equal. Each step, including the floor at the top riser, shall be surfaced with a nonskid material with a 40 mm (1.6") to 80 mm (3.1") white nosing as an integral piece.
- 4) The service door shall be either manually or power operated by the seated driver. When in the closed and secured position, the door operating mechanism shall prevent accidental opening but shall afford prompt release and opening by the driver. No exposed parts of a door operating mechanism shall come together so as to shear or crush finger(s). The vertical closing edge(s) of a service door shall be padded to lessen chance of injury.
- 5) A power operated door shall be equipped for emergency manual operation in case of power failure. Instructions for emergency operation of a power operated door shall be affixed permanently on the interior of the door in letters at least 12 mm (.5") high.
- 6) A single-section service door shall be hinged at the front of the service entrance.
- 7) Glazed panels shall be installed in the service door to afford the driver a view of small children outside the door, traffic signs, and intersecting roadways. The bottom of each lower glass panel shall not be more than 10 inches from the top surface of the bottom step. The top of each upper glass panel shall not be more than 3 inches from the top of the door.
- 8) Service Door Lock (Optional). If ordered by the purchaser, a lock may be installed on or at the service door. Any type service door locking system installed in the bus shall conform to at least one of the following requirements.
 - A) Requirement 1: A locking system shall not be capable of preventing the driver from easily and quickly opening the service door; or

- B) Requirement 2: A locking system that is capable of preventing the driver from easily and quickly opening the service door shall include an audible and visible alarm to alert the driver when the engine is running and the service door is locked. No alarm disconnect, "squench control", or other alarm defeating or attenuating device shall be installed; or
 - C) Requirement 3: A locking system shall not be capable of preventing the driver from easily and quickly opening the service door except when, and only when, a person outside the bus uses a key that is not capable of locking more than one of at least 1000 of the door manufacturer's key locking systems.
- ff) Steering Wheel Clearance. The rim grip of the steering wheel shall have at least 50 mm (2") clearance in all directions, except at the spokes.
- gg) Steps, Body Front. On each side at the front of the body at least one grab handle and recessed foothold or folding stirrup step shall be installed so as to provide easy access to the windshield for cleaning purposes.
- hh) Stop Signal Arm Panel.
- 1) A stop signal arm panel must be installed on the left side of the bus that conforms to 49 CFR 571.131. The panel may be operated either manually or mechanically. Decals may be used in lieu of painting. Strobe lamps are acceptable on stop signal arm panels.
 - 2) "Operated ... mechanically" shall be interpreted to include power operation. Also, "16-gauge metal" shall be interpreted to include thicker metal and any nonmetallic material equivalent or superior to hot rolled 16-gauge mild steel in stiffness, corrosion resistance, and durability.
 - 3) Section 440.Illustration B depicts the octagon shaped semaphore required in subsection (hh)(1).
 - 4) Additional stop signal arm panels may be added at the purchaser's request. Additional panels must be located on the left side of the bus. Additional panels must operate in conjunction with the required panel and meet all stop arm panel requirements except as follows. The additional panel must not contain any lights, marking or reflective material on the front side of the panel. The additional panel must be located in the rear half of the bus adjacent to the rearmost window.
- ii) Storage Compartment(s) (Optional).
- 1) If installed, the storage compartment(s) shall be fire-resistant and of adequate strength and capacity for the storage of the items to be carried,

such as tire chains, tow chains, tools for roadside or minor repairs, school activity equipment, etc. The compartment(s) shall provide reasonable security for the contents and shall be constructed and installed so as to preclude passenger injury due to the compartment(s) or the contents becoming dislodged when the bus is subjected to the maximum possible braking force and to minimize chances of such injury when the bus is subjected to a collision impact.

- 2) If a relatively small storage compartment is located inside the passenger compartment, seat cushion(s) alone may not serve as the cover for the compartment.
- jj) Sun Visor. An interior, adjustable, transparent, tinted sun visor not less than 150 mm (5.9") high by 760 mm (29.9") wide shall be so installed that it can be turned up and will remain up when not in use. It may be supported so that it can be moved for use on the driver's left, but when used in front of the driver and in a position approximately parallel to the windshield it shall be supported at or near each of its ends so as to minimize its vibration. Exception: For school buses that meet the definition of a Type I-A school bus, as defined in Section 440.220, the sun visor may meet manufacturer's specifications.
- kk) Tow Hook, Rear (Optional). Any tow hook(s) installed on the rear shall be attached or braced to the chassis frame, or to an equivalent structural member of an integral type bus. A tow hook may not extend beyond the rear face of the rear bumper.
- ll) Undercoating. The underside of the body, including floor members and the side panels below the floor, shall be coated with a fire-resistant undercoating material applied by the spray method so as to seal, insulate, reduce corrosion, and reduce interior noise. Non-metallic components need not be coated.
- mm) Ventilation. The body shall be equipped with a controlled ventilation system of sufficient capacity to maintain a satisfactory ratio of outside to inside air under cool and cold operating conditions without opening of windows. With a powered ventilation system, air outlet openings shall be located, sized, and manufactured so that, with doors and windows closed, a positive pressure is maintained in the driver and passenger spaces, to lessen chances of dangerous gas entering such spaces. Fresh air inlet(s) shall be located so as to minimize entrance of either dangerous engine gas or obnoxious engine fumes.
- nn) Warning Devices. *Emergency warning devices are required to be carried on school buses weighing more than 8,000 pounds and operated upon any highway outside an urban district. The warning devices must be securely stored. The warning devices shall consist of:*
 - 1) *At least three portable red emergency reflectors that conform to 49 CFR 571.125; and*

- 2) *At least two red cloth flags, not less than 12 inches square, with standards to support the flags; or in lieu of the flags, at least two additional portable emergency reflective devices that conform to 49 CFR 571.125. (Section 12-702 of the Code)*

AGENCY NOTE: A school bus must carry warning devices when on the public roads, but the bus purchaser may elect to install warning devices after the bus is purchased.

- oo) Weight Distribution and Gross Weight. Storage or cargo spaces, if installed, and seats shall be located so that when the bus is fully loaded as specified or advertised by the manufacturer the loads exerted on the roadway will exceed neither a tire load rating, nor a gross axle weight rating, nor the gross vehicle weight rating indicated by the data displayed on the label permanently affixed in compliance with Section 440.310.
- pp) Wheel Housings.
 - 1) Each wheel housing opening shall allow for unimpeded wheel and tire service or removal.
 - 2) Each rear wheel housing shall provide the clearance recommended in SAE Information Report J683a, August 1985, for installation and use of tire chains on the dual or single tires installed on the rear wheels.
- qq) Windows or Glazed Panels, Rear. Glazed panels, or windows, shall be installed in the rear of the bus so as to afford the seated driver a reflected view through the rear of the bus as wide and as high as practical without unduly weakening or increasing the cost of the body structure. Such view shall be as low as allowed by the back(s) of the rear seat(s) except that, when the aisle required under subsection (a), extends to a rear emergency door, an additional lower glazed panel shall be installed to afford the driver an additional view through such panel at least the width of the required aisle and as low and high as practical.
- rr) Window Openings, Side. This subsection does not apply to a window or glazed panel installed forward of a front passenger seat, and is optional for a window installed either beside a rear passenger seat, special service door, or in a side emergency exit.
 - 1) All side windows shall open from the top only and shall operate freely.
 - 2) There shall be one vertical opening side window for each seat.
 - 3) Each side window shall provide an unobstructed emergency egress opening at least 9" high and 22" wide. The opening may extend to 18" above the unoccupied passenger seat cushion but no closer (to the seat cushion).

- 4) A stop line for the window opening shall be applied 6" from the top of the window opening.
- 5) The side windows may be split sash.
- 6) The window latches shall be recessed.

AGENCY NOTE: See Section 440.420(o) for glazing material requirements.

ss) Windshield.

- 1) The windshield shall be large enough to permit the operator to see the highway clearly, and shall be curved or slanted to reduce glare. The front cornerposts and other supports shall be shaped and located so as to cause as little obstruction to the driver's view of the highway as practical.
- 2) The windshield shall have a graduated glazing shade band across the top. The definition and boundary of this shade band shall be as recommended in SAE Recommended Practice J100, June 1995.

tt) Windshield Wipers.

See the FMVSS for requirements (49 CFR 571.104).

uu) Windshield Washer.

See the FMVSS for requirements (49 CFR 571.104).

vv) Wiring. The following applies to wiring in Type I school buses:

- 1) All wiring for lamps and other electrical devices shall be as recommended for automobiles, motor coaches, and heavy duty starting motor circuits in SAE Recommended Practices J556, J555a, J541a, October 1996, and in other practices or standards referenced therein, unless preempted by FMVSS.
- 2) Circuits
 - A) Wiring shall be arranged in at least nine regular circuits as follows:
 - i) Head, tail, stop (brake), and instrument panel lamps;
 - ii) Clearance lamps and any lamps in or adjacent to step risers;

- iii) Interior lamps;
 - iv) Starter motor;
 - v) Ignition, emergency exit alarm signal(s), and other alarm signal(s);
 - vi) Turn signal lamps;
 - vii) Alternately flashing signal lamps and stop signal arm lamps;
 - viii) Horn;
 - ix) Heater and defroster.
- B) Any of the above combination circuits, except (vii), may be divided into independent circuits. Whenever feasible, all other electrical functions (sanders, windshield wipers, heaters, defrosters, etc.) shall be provided with independent and properly protected circuits.
- 3) Each body circuit shall be coded either by numeral(s) and/or letter(s) at approximately 100 mm (3.9") intervals, or by color and numeral(s) and/or letter(s), or by color(s) only. The code(s) shall appear on a diagram of the circuits in a readily accessible location.
 - 4) A separate fuse or circuit breaker shall be provided for at least each circuit required under subsection (vv)(2)(A), except that components of the engine starter and ignition circuits may be protected by other means.
 - 5) Wires not enclosed within the body shall be fastened securely at intervals of not more than 460 mm (18.1").
 - 6) All terminals and splice clips shall be accessible.
 - 7) The chassis manufacturer shall install a readily accessible electrical terminal so that the net body and chassis electrical current flow can be indicated through a chassis ammeter without dismantling or disassembling the chassis component. The chassis wiring to this terminal shall have a current carrying capacity at least equal to the maximum generator output.

(Source: Amended at 26 Ill. Reg. 3219, effective February 19, 2002)

SUBPART F: CHASSIS REQUIREMENTS

Section 440.505 Conformance to the Requirements

At the time of the safety test conducted under provision of Section 13-109 of the Code, and when delivered to the purchaser, the chassis of each Type I School Bus shall conform to the requirements stated or referred to in this Subpart. Some body requirements also applicable to the chassis are repeated or referred to herein.

(Source: Amended at 22 Ill. Reg. 19354, effective October 15, 1998)

SUBPART F: CHASSIS REQUIREMENTS

Section 440.510 Incorporation by Reference of Federal Motor Vehicle Safety Standards

Each bus body must conform to the applicable provisions of the Federal Motor Vehicle Safety Standards (FMVSS) (49 CFR 571.101 through 571.304) in effect on the first day of the month in which the chassis manufacturer completed his last manufacturing operation on the incomplete bus. Those applicable provisions of the FMVSS are incorporated by reference as that Subpart of the FMVSS was in effect on October 1, 2000. No later amendments to or editions of 49 CFR 571.101 through 571.304 are incorporated.

(Source: Amended at 26 Ill. Reg. 3219, effective February 19, 2002)

Section 440.520 State Requirements

Except for mirrors, which may project 152 mm (6 inches), a school bus shall not exceed 2.625 m (8 feet) in width, 4.429 m (13 feet 6 inches) in height, nor 13.78 m (42 feet) in length (Sections 15-102 and 15-107, of the Illinois Vehicle Code (the Code)[625 ILCS 5/15-102 and 15-107]). Exceptions to the above are shown in Section 440.420 of this Part. Various portions of the bus chassis shall conform to the requirements set forth under the following subsections.

- a) Air Cleaner.
 - 1) A dry element type air cleaner shall be provided.
 - 2) All diesel engine air filters shall include a latch-type restriction indicator that retains the maximum restriction developed during operation of the engine. The indicator should include a reset control so the indicator can be returned to zero when desired. Diesel-powered school buses that meet the definition of a Type I-A school bus, as defined in Section 440.220, are exempt from the restriction indicator requirement.
- b) Axles. Must meet federal chassis requirements as indicated on the federal certification label as required by 49 CFR 567 and 49 CFR 568.
- c) Battery. See Section 440.420(b) of this Part.
- d) Brakes. See the FMVSS for requirements (49 CFR 571.105).

- e) Bumper, Front. The front bumper shall be of channel type cross section, shall be formed from rolled steel at least 4.5 mm (.177 inches) thick, shall have not less than a 200 mm (7.9 inches) vertical face, and shall extend to protect the outer edges of the fenders, or the body of a forward control bus. The bumper shall be of sufficient strength to permit pushing another vehicle of equal gross weight without permanent distortion. Exception: For school buses that meet the definition of a Type I-A school bus, as defined in Section 440.220, the bumper may meet manufacturer's specifications when the Type I-A school bus is equipped with a driver side air bag.
- f) Clutch. A bus having a manual shift transmission shall be equipped with the type and size of clutch recommended by the incomplete vehicle manufacturer for heavy duty service between the engine and transmission installed in the bus.
- g) Color and Paint. See Section 440.420(g) of this Part.
- h) Drive Shaft. A suitable guard shall be provided for each segment of the drive shaft to prevent accident or injury if the shaft breaks or becomes disconnected.
- i) Engine. Type and displacement may be specified by the purchaser.
- j) Exhaust System.
 - 1) The exhaust pipe, muffler and tail pipe shall be outside the bus body and attached to the chassis.
 - 2) The exhaust system shall be insulated from any insulated wire, flammable material, brake hose or line, or fuel system component by a securely attached metal shield at any point where the exhaust system is 11.8 inches (300 mm) or less (four inches (101.6 mm) or less if diesel powered engine) from the components listed in this subsection (j)(2).
 - 3) The tail pipe shall be extended to exit the exhaust gases either to the right or left side, or rear of the bus, except for prohibited zones as shown in Illustration C - Exhaust Discharge Prohibited Zones.
 - 4) The tail pipe shall extend out to but not more than 1 inch (25.4 mm) beyond the perimeter of the body or the bumper.
 - 5) The shielding of engine compartment components shall be governed by the chassis manufacturer's standards.
 - 6) Each gas conducting component that is not of stainless steel shall be of commercial heat and corrosion resistant exhaust system material and shall be nonflexible.

- 7) For school buses that meet the definition of a Type I-A school bus, as defined in Section 440.220, the tail pipe may meet the chassis manufacturer's standard configuration. However, the tail pipe shall not exit beneath any fuel filler location or beneath any emergency exit door.
- k) Frame. See Section 440.420(x)(1) of this Part.
- l) Generating System. The generating system may utilize either mechanical rectification (commutator type) or diode rectification (alternator type).
 - 1) The generator output shall be regulated automatically so as to provide for efficient battery charging without causing damaging potentials or currents in any part of the electrical system. Automatic means shall be provided to prevent battery discharge through the generator while the generator is not delivering current.
 - 2) The generator in a nominal 12 volt system shall be able to deliver a continuous current of 60 amperes, or more, while its automatic regulating devices are connected and functioning properly and the engine is running no faster than the speed at which it delivers its maximum net torque at the engine flywheel.
 - 3) The generator in a nominal 12 volt system shall be able to deliver a continuous current of 20 amperes, or more, while its automatic regulating devices are connected and functioning properly and the engine is running no faster than the curb idle speed recommended by the engine manufacturer.
 - 4) The generator in a nominal voltage system higher or lower than 12 volts shall be able to deliver at least the same continuous power (watts) as indicated under subsections (l)(2) and (3) of this Section, at the engine speeds indicated therein.

AGENCY NOTE: Where a bus must operate under adverse conditions such as low engine speeds, frequent periods of engine idle, and or with high electrical load (frequent use of signals and interior lamps, high heater defroster loads, etc.) for prolonged periods of time, the purchaser should specify a larger generator commensurate with operating conditions.

- m) Horn(s).
 - 1) At least one horn shall be installed giving an audible warning at a distance of 200 feet. The horn(s) shall be controlled conveniently by the seated driver.

- 2) A siren, whistle, or bell may not be installed to attract attention of pedestrians or drivers outside the bus (Section 12-601(b) of the Code). This prohibition shall not be interpreted to prohibit use of such device(s) inside the bus body to provide warnings to the bus driver.
- n) Instruments. The bus shall be equipped with at least the following nonglare illuminated instruments and gauges mounted for easy maintenance and repair and in such a manner that each is clearly visible to the seated driver:
 - 1) Ammeter, with “charge” and “discharge” indications, provisions for 100 ampere, or more, continuous current indication, and arranged so as to remain unharmed by any ammeter current flow resulting from the installed generator operating at its maximum output;
 - 2) Gauge, Air Pressure or Vacuum (where air pressure or vacuum is utilized either to apply or to assist in applying the service brakes);
 - 3) Gauge, Engine Coolant Temperature;
 - 4) Gauge, Engine Oil Pressure;
 - 5) Gauge, Fuel;
 - 6) Odometer (may be combined with speedometer; may indicate kilometers traveled if such indication is shown, clearly and conspicuously);
 - 7) Speedometer, with both miles per hour and kilometers per hour scales that are easily readable.
- o) Lamps and Signals. See Section 440.420(s) of this Part.
- p) Oil Filter. A “full flow” type engine oil filter of approximately 1 liter (1 quart) capacity shall be installed. The purchaser may specify additional “full flow” or “by-pass” type filter(s), or oil treatment device(s).
- q) Shock Absorbers. Two front and two rear double-acting shock absorbers of adequate capacity shall be installed.
- r) Spare Tire (Optional). The spare tire and rim, if supplied, shall be of the same size designation and load rating as the largest tire and rim installed on the bus. Each spare tire and rim shall be suitably mounted in an accessible location outside the passenger compartment.
- s) Springs and Suspension. Each spring and other component in any of the suspension systems shall be capable of supporting its share of the rated gross axle weight during normal operations. Where spring failure could result in total

loss of control of the bus, suitable means shall be provided to make such total loss most unlikely.

- t) **Steering Mechanism.** Power steering is optional. The steering mechanism(s) shall provide safe and accurate performance at maximum load and speed and shall be adjustable while installed on the completed bus. After the date of manufacture of the incomplete vehicle, the steering mechanism(s) shall not be modified unless such modification is done with the concurrence of the incomplete vehicle manufacturer and in accordance with the incomplete vehicle manufacturer's instructions.
- u) **Tow Hooks, Front (Optional).** A front tow hook may not extend beyond the front of the front bumper. Each front tow hook not fastened securely to the chassis frame shall be connected to the frame by suitable braces.
- v) **Transmission.** Unless otherwise specified by the purchaser, the transmission shall be manual-shift.
 - 1) A manual-shift transmission shall provide not less than 4 forward gear ratios and 1 reverse gear ratio. A synchromesh shifting mechanism shall be provided for each forward gear ratio except for the highest ratio; i.e., "first gear" or "low gear." (Synchromesh may be specified for "first" or "reverse" gears at the purchaser's option.)
 - 2) An automatic transmission may be specified by the purchaser. Such transmission shall provide not less than 3 forward gear ratios and 1 reverse gear ratio.
- w) **Undercoating.** The entire underside of front fenders or wheel wells shall be coated with a fire-resistant undercoating material in order to seal joints and to reduce corrosion and noise. Nonmetallic components need not be coated.
- x) **Wiring.** See Section 440.420(vv) of this Part.

(Source: Amended at 26 Ill. Reg. 3219, effective February 19, 2002)

Section 440.ILLUSTRATION A Hexagon Shaped Stop Signal Arm (Repealed)

(Source: Repealed at 22 Ill. Reg. 19354, effective October 15, 1998)

Section 440.ILLUSTRATION B Octagon Shaped Stop Signal Arm Panel

Section 440.ILLUSTRATION C Exhaust Discharge Prohibited Zones

"Gross Vehicle Weight Rating or GVWR" - The value specified by the manufacturer as the loaded weight of the school bus. (Section 12-800 of the Illinois Vehicle Equipment Law)

"Illinois Vehicle Equipment Law" - 625 ILCS 5/12-100 through 12-902

"Interstate School Bus" - Any school bus not owned by a school district designed to transport 16 or more persons, including the driver, that is used for interstate charter purposes (i.e., travels to another state). The bus must be marked with a federal Interstate Commerce Commission (ICC) number. Interstate school buses require an annual inspection that meets 49 CFR 396 - Appendix G as well as the semi-annual or 10,000 mile inspection required by 625 ILCS 5/13-101.

"Manufacturer" - (unless otherwise indicated at the point of use) means the person or organization whose name follows "MANUFACTURED BY" or "MFD BY" on the federal certification label.

"Passenger" - Every occupant of the vehicle who is not the driver.

"Purchase Date" - Date when purchase transaction was completed, not when body or chassis was built.

"School Bus" -

Type I School Bus - A School Bus with gross vehicle weight rating of more than 10,000 pounds.

Type II School Bus - A School Bus with gross vehicle weight rating of 10,000 pounds or less. (Section 12-800 of the Illinois Vehicle Equipment Law)

Every motor vehicle, except as provided below, owned or operated by or for any of the following entities for the transportation of persons regularly enrolled as students in grade 12 or below in connection with any activity of such entity:

*Any public or private primary or secondary school;
Any primary or secondary school operated by a religious institution; or
Any public, private or religious nursery school.*

This definition shall not include the following:

A bus operated by a public utility, municipal corporation or common carrier authorized to conduct local or interurban transportation of passengers when such bus is not traveling a specific school bus route but is:

On a regularly scheduled route for the transportation of other fare paying passengers;

Furnishing charter service for the transportation of groups on field trips or other special trips or in connection with other special events; or

Being used for shuttle service between attendance centers or other educational facilities.

A motor vehicle of the first division.

A motor vehicle designed for the transportation of not less than 7 nor more than 16 persons that is operated by or for a public or private primary or secondary school, including any primary or secondary school operated by a religious institution, for the purpose of transporting not more than 15 students to and from interscholastic athletic or other interscholastic or school sponsored activities. (Section 1-182 of the Code)

“Seating Reference Point” - the unique design H-point, as defined in SAE J1100, which simulates the position of the pivot center of the human torso and thigh. Each school bus manufacturer utilizes different criteria to determine the specific seating reference point on passenger seats for vehicles they manufacture.

“Type I-A school bus” means a term commonly used by school bus manufacturers to classify a school bus that is a conversion or body constructed upon a van-type or cutaway front-section vehicle with a left side driver’s door, designed for carrying more than 10 persons. The Type I-A school bus has a Gross Vehicle Weight Rating (GVWR) of more than 10,000 pounds.

“Vehicle” -

First Division: Those motor vehicles which are designed for the carrying of not more than ten persons.

Second Division: Those vehicles which are designed for carrying more than ten persons, those designed or used for living quarters and those vehicles which are designed for pulling or carrying property, freight or cargo, those motor vehicles of the First Division remodeled for use and used as motor vehicles of the Second Division, and those motor vehicles of the First Division used and registered as school buses. (Section 1-217 of the Code)

(Source: Amended at 24 Ill. Reg. 12099 effective July 31, 2000)

Section 441.APPENDIX A Air Cleaner through Barrier, Guard

a) AIR CLEANER

PROCEDURE/SPECIFICATIONS:

Any type is acceptable.

REJECT VEHICLE IF:

Air cleaner is not properly attached or is missing.

b) AISLE

PROCEDURES/SPECIFICATIONS:

Unobstructed minimum clearance leading from service door to emergency door (or back of bus) must be at least 12 inches (305 mm) wide. For buses manufactured in July 1987 or later, aisle width at two inches below top of seat back must be 15 inches (380 mm). Floor to ceiling height must be a minimum of 68.9 inches (1.75 m) at any location within the aisle.

An aisle may be adjacent to any side emergency door. For buses manufactured on or after September 1, 1994, the following must be met:

- 1) An unobstructed aisle measuring at least 11.7 inches (30 cm) must be maintained at all times, except when a flip-up seat is in the down position.
- 2) No portion of the door latch mechanism can be obstructed by a seat.
- 3) The 11.7 inch (30 cm) aisle is measured from the door opening to the seat back in front. (49 CFR 571.217)

AGENCY NOTE: Flip-up seats are allowed. See SEATS, PASSENGER for standards.

REJECT VEHICLE IF:

Aisle does not meet minimum standards.

c) ALTERNATOR
(GENERATOR)

PROCEDURES/SPECIFICATIONS:

The generator, or alternator with rectifier, shall have a minimum capacity rating of 60 amperes and shall be capable of meeting all electrical requirements.

REJECT VEHICLE IF:

Alternator does not meet minimum standards or is not functioning.

d) AXLES

PROCEDURES/SPECIFICATIONS:

Must meet federal chassis requirements as indicated on federal certification label. (49 CFR 568)

REJECT VEHICLE IF:

Axles show visible signs of apparent damage, leaking fluids or are not firmly attached.

e) BARRIER,
GUARD

PROCEDURES/SPECIFICATIONS:

A guard barrier, constructed and thickly padded so as to provide head, knee and leg protection, shall be installed in front of each forward facing passenger seat that does not directly face the rear surface of another passenger seat. The barrier must measure the same height as the passenger seat back directly behind that barrier. (49 CFR 571.222).

In a bus manufactured in January 1988 or later, guard barriers must measure the same height required of the seat back directly behind that barrier.

Exception: In a bus manufactured from July 1, 1987, to December 31, 1987, the barrier may measure less than the seat back behind the barrier.

Exception: In a bus with chassis (incomplete vehicle) manufactured in March 1977 or earlier, the barrier may consist of a floor-to-ceiling vertical stanchion, padded to within three inches of ceiling and floor, and a stanchion-to-wall, fully padded, horizontal guard rail. However, if located adjacent to stepwell, this type barrier shall include a stepwell guard panel that extends from the stanchion to the wall and from the guard rail to within two inches of the floor.

Exception: All buses manufactured prior to September 1974 are exempt from padding on stanchions and guard rails.

Exception: See 92 Ill. Adm. Code 445.APPENDIX A (Inspection Procedures for Special Education School Buses) for possible exception.

REJECT VEHICLE IF:

Barrier is not solidly attached. Padding or covering shows wear and tear. Barrier does not meet requirements.

(Source: Amended at 22 Ill. Reg. 11889, effective June 30, 1998)

Section 441.APPENDIX B Battery or Batteries through Bumper, Front

a) BATTERY OR BATTERIES

PROCEDURES/SPECIFICATIONS:

One or more batteries may be mounted either in engine compartment or on outside of passenger/driver area. Battery (or batteries together) in a 12 volt system shall be rated, when new, to provide the following:

Engine manufacturer's recommended Cold Cranking Current (amperes for 30 seconds) at -18 degrees C (0 degree F) or, at the purchaser's option, at -29 degrees C (-20 degrees F).

The battery(s) shall provide a Reserve Capacity (duration of 25 ampere current flow) at 27 degrees C (80 degrees F) for no less than 135 minutes.

Low rate discharge capacity of 90 ampere-hours or more (20 hour discharge test at 80 degrees F).

Exception: A bus manufactured in August 1974 or earlier may have a 70 ampere-hour battery, in a 12 volt system.

REJECT VEHICLE IF:

Battery or batteries are not securely mounted; excessively corroded; of insufficient capacity.

b) BATTERY CABLES

PROCEDURES/SPECIFICATIONS:

Check condition.

REJECT VEHICLE IF:

Cables are corroded or are not securely attached.

c) BATTERY CARRIER

PROCEDURES/SPECIFICATIONS:

When the battery is mounted outside the engine compartment it shall be welded or bolted in a closed, weather-tight, and vented compartment that is located and arranged so as to provide for convenient routine servicing. The battery compartment door, or cover, shall be secured by a manually operated latch or other fastener. A latch or fastener must be designed in such a fashion

as to keep the door closed when in the latched position. Each electrical cable connecting the battery in this carrier to the body or chassis shall be one piece between the terminal connector and the first body or chassis terminal connector.

REJECT VEHICLE IF:

Battery carrier does not meet requirements.

d) BRAKES

PROCEDURES/SPECIFICATIONS:

Every motor vehicle shall be equipped with two separate means of applying the brakes and they shall be so constructed that failure of any one part of the operating mechanism shall not leave the motor vehicle without brakes. (Section 12-301(a) of the Illinois Vehicle Equipment Law)

REJECT VEHICLE IF:

Brakes do not meet requirements.

1) Backing
Plate

PROCEDURES/SPECIFICATIONS:

Check condition.

REJECT VEHICLE IF:

Backing plate is in poor condition.

2) Drums/
Discs

PROCEDURES/SPECIFICATIONS:

Inspect drums and/or discs for cracks or for being worn or reworked beyond the manufacturer's minimum limits.

REJECT VEHICLE IF:

Worn or reworked beyond the manufacturer's minimum limits.

3) Emergency/
Parking
Brake

PROCEDURES/SPECIFICATIONS:

Emergency/parking brake system must apply brakes to at least two wheels. (Section 12-301(a) of the Illinois Vehicle Equipment Law)

AGENCY NOTE: Micro brakes are not considered a separate means of braking and are not acceptable.

Procedures for testing:

- 1) Apply operating control fully.
- 2 Check actuating mechanism for release.

Brake Performance Test:

Using Drive-On Pad Type Tester:

- 1) Drive vehicle onto brake machine pads at 4-8 m.p.h.
- 2) Apply emergency/parking brakes to bring vehicle to a halt. Do not lock wheels.
- 3) Note the braking forces registered by the brake machine.

Using Roll-On Type Tester:

- 1) Position axle with emergency brake onto roller.
- 2) Apply emergency brake but do not lock wheels.

REJECT VEHICLE IF:

Emergency/parking brake does not meet requirements.

Procedures for testing:

- 1) Not equipped with emergency/parking brakes. Operating mechanism does not hold in the applied position.
- 2) Actuating mechanism does not fully release when release control is operated properly.

Brake Performance Test:

Drive-On Tester:

Machine does not register a total braking force of at least 20% of vehicle empty weight. Braking forces at opposite wheels on same axle vary more than 20%.

Roll-On Tester:

Machine does not register a total braking force of at least 20% of vehicle empty weight. Braking forces at opposite wheels on same axle vary more than 20%.

- 4) Emergency
Brake
Ratchet
(Pedal or
Lever)

PROCEDURES/SPECIFICATIONS:

Must be in proper adjustment. If vehicle was manufactured with a warning light, it must be visible when emergency brake is activated.

REJECT VEHICLE IF:

Emergency brake ratchet or warning light do not meet requirements.

- 5) Pedal
Clearance
(Service
Brakes)

PROCEDURES/SPECIFICATIONS:

Minimum 1 1/2 inch clearance with pedal fully depressed.

REJECT VEHICLE IF:

Pedal clearance does not meet requirements.

- 6) Power
Systems

- A) Air

- i) Air Pressure

PROCEDURES/SPECIFICATIONS:

With air system fully charged (compressor governor "cut-out") run engine at low idle. Make one full (maximum) brake application and immediately record reservoir air pressure.

Apply and release brakes until pressure indicated on the air gauge is at least 10 psi (i.e, pounds per square inch) below governor "cut-in" pressure. Run engine at high idle and

determine seconds required to raise reservoir pressure from recorded pressure.

REJECT VEHICLE IF:

Time required to raise air pressure from recorded to cut-out is more than 30 seconds. Air gauge is missing or does not operate.

ii) Low Pressure Warning Device

PROCEDURES/SPECIFICATIONS:

Complete the following steps to evaluate low pressure warning device.

- 1) Before starting the engine, apply brakes and release until low air pressure warning device functions.
- 2) Start the engine.
- 3) Apply service brakes and release until air compressor is activated.
- 4) Continue to run engine until compressor cut-out pressure is reached.
- 5) Record compressor cut-out pressure.
- 6) Shut engine off.

Determine if low pressure warning device is missing or inoperative.

If located in the driver's forward field of view, the warning device can be a visual device only. If not located in the driver's front view, the device must be both audible and visible. For buses manufactured before September 1, 1974, the device can be either audible or visible.

Record the reading found on the pressure gauge at which the low pressure warning device functions.

REJECT VEHICLE IF:

Missing or inoperative low pressure warning device. Device does not meet requirements.

Low pressure warning device does not operate at 55 psi or one half cut-out pressure, whichever is less.

B) Electric/

Hydraulic

PROCEDURES/SPECIFICATIONS:

Turn key to "off" position. Depress service brake pedal. Electric hydraulic pump must come "on" (listen).

REJECT VEHICLE IF:

Electric pump does not operate properly or is absent.

C) Hydraulic

PROCEDURES/SPECIFICATIONS:

Inspect booster belt(s), supports, tubes, hoses, connections and general condition. Clean reservoir and cover as necessary and check master cylinder fluid level. Do not contaminate fluid.

Turn key to "on" position. Warning signal must come on (look/listen). Depress brake pedal lightly. Start engine. Pedal must move down slightly (feel). Warning signal must go "off" (look/listen).

REJECT VEHICLE IF:

Belt is slack or worn; tube or hose is damaged; any part leaks or is cracked; master cylinder fluid is below manufacturer's recommended capacity.

Either booster or warning signal does not operate properly.

D) Vacuum/ Hydraulic

PROCEDURES/SPECIFICATIONS:

Inspect tank(s), chambers, hoses, tubes, connectors, clamps, and booster air cleaner.

Inspect supports and attachments.

With engine off, repeatedly apply service brakes until vacuum is depleted, with medium pressure on brake pedal, start engine; release brake and operate engine until maximum vacuum is established; stop engine; apply service brakes hard.

With brakes still applied, start engine; after one minute of running engine, check "Low Vacuum" indicator.

REJECT VEHICLE IF:

Any component is restricted, collapsed, scraped, cracked, loose, or broken. Booster air cleaner is clogged.

Any support or attachment is broken. Any connecting line or other component is not attached or supported so as to prevent damage from scraping or rubbing.

Foot pedal does not fall away from foot when engine is started; insufficient vacuum reserve to permit one full service brake application after engine is off without actuating "low vacuum" indicator; valve or diaphragm leaking.

7) Service
Brakes

PROCEDURES/SPECIFICATIONS:

Must be equipped with service brakes on all wheels. (Section 12-301(a)(5) of the Illinois Vehicle Equipment Law)

Must be equipped with a "split system" on service brakes. (49 CFR 571.105)

Power-assisted service brakes are required. (49 CFR 571.105)

REJECT VEHICLE IF:

Service brakes do not meet requirements.

A) Brake
Inspection
Report

PROCEDURES/SPECIFICATIONS:

Verify Brake Inspection Report for following (refer to Section 441.Illustration C for example of form):

- 1) Vehicle Identification Number (VIN), make and year must correspond to the bus presented for inspection.
- 2) The Brake Inspection Report must indicate the date and mileage at time the brake inspection was performed. If date is more than one year prior to time of inspection or mileage has exceeded 10,000 miles, a brake inspection must be performed.
- 3) The form must be completed with all required information. No blank lines are acceptable.

Exception: If the bus has operated less than 10,000 miles and less than 12 months have passed since the bus was manufactured, a Brake Inspection Report is not required. Write

"Less than 10,000 miles and less than one year old" in the remarks section on the Vehicle Inspection Report.

REJECT VEHICLE IF:

Absent, invalid, or incomplete Brake Inspection Report.

B) Brake
Performance
Test

PROCEDURES/SPECIFICATIONS:

Using Drive-On Pad Type Brake Tester:

Check vehicle's stopping ability before testing.

Drive vehicle onto brake machine pads at 4-8 m.p.h.

Apply service brakes to bring vehicle to a halt. Do not lock wheels.

Note the braking forces registered by the brake machine.

Using Roll-On Type Tester:

When using roller-type tester each axle must be tested separately. Transmission must be in neutral when testing brakes on any drive axle.

Drive front axle onto rollers. Start roller motor. Apply service brakes but do not lock wheels.

Repeat the above steps for each axle.

The total braking force on a vehicle must be determined by adding the results of the test on each axle.

REJECT VEHICLE IF:

Drive-On Tester:

Machine does not register a total braking force of at least 60% of the vehicle empty weight.

Computerized tester does not register a total braking force of at least 45% of the vehicle empty weight.

Roll-On Tester:

Braking forces at opposite wheels on same axle vary more than 20%.

Machine does not register a total braking force of at least 60% of the vehicle empty weight. Braking forces at opposite wheels on same axle vary more than 20%.

e) BUMPER,
FRONT

PROCEDURES/SPECIFICATION:

Either channel type, formed of rolled steel at least .177 inch (4.5 mm) (approximately 3/16 inch) thick, or approved energy absorbing type.

Buses manufactured in August 1974 or later must have 7.9 inches (200 mm) or more vertical black face.

Bumper must extend to outer edges of fenders and other front end sheet metal. Must be of strength to permit pushing vehicle of equal weight without permanent distortion.

(See CROSSING CONTROL ARM in Section 441. Appendix C for requirements.)

Exception: Buses manufactured prior to September 1974 are exempt from bumper thickness and 7.9 inch face requirement.

Exception: For buses that meet the definition of a Type I-A school bus, as defined in Section 441.40, the front bumper may meet manufacturer's specifications when the Type I-A school bus is equipped with a driver side air bag.

REJECT VEHICLE IF:

Front bumper does not meet thickness, face height and color requirements. Must be solidly attached, in good condition, free from damage and sharp edges.

(Source: Amended at 25 Ill. Reg. 3283, effective February 20, 2001)

Section 441.APPENDIX C Bumper, Rear through Drive Shaft Guard

a) BUMPER,
REAR

PROCEDURES/SPECIFICATIONS:

Channel steel at least .18 inch (4.55 mm) (approximately 3/16 inch) thick with a minimum 8.9 inches (225 mm) black face, full wrap around and attached so as to prevent hitching rides (i.e., "nonhitchable").

Shall be attached so that removal is possible by commonly available hand tools.

Shall be of strength to permit bus being pushed by another vehicle without permanent distortion.

AGENCY NOTE: "Nonhitchable" is defined as the rear of the bus being designed and maintained to prevent or discourage riding or grasping rear of bus so as to "hitch" rides.

REJECT VEHICLE IF:

Rear bumper does not meet requirements. Not solidly attached. Sharp edges are present. Rear bumper is hitchable.

b) CERTIFICATE AND
REGISTRATION
CARD HOLDER

PROCEDURES/SPECIFICATIONS:

At least one card holder with a transparent face no less than 5.9 inches by 3.9 inches (150 mm by 100 mm) shall be securely affixed to the inside header panel out of students' easy reach.

REJECT VEHICLE IF:

Certificate and registration card holder does not meet requirements.

c) CERTIFICATION
LABEL (FEDERAL)

PROCEDURES/SPECIFICATIONS:

Inspect federal certification label if the chassis (incomplete vehicle) was manufactured on or after June 1, 1971. The certification label may be supplemented by an alterer's certification.

The manufacturer's label must contain the following information:

- 1) Name of vehicle (bus) manufacturer and the month and year in which manufacture of the vehicle was completed;
- 2) Name of incomplete vehicle (chassis) manufacturer and the month and year in which he performed his last manufacturing operation on the incomplete vehicle;
- 3) Gross vehicle weight rating, or ratings (GVWR);
- 4) Gross axle weight ratings (GAWR);
- 5) The statement, "This vehicle conforms to all applicable federal motor vehicle safety standards in effect in (month/year)";

- 6) The vehicle identification number (VIN);
- 7) The vehicle's classification (usually "BUS"). (49 CFR 567.5)

Alterer's certification: A certified vehicle might have been altered before its purchase for use as a school bus. The alterations may have included, but are not limited to, classification changes, gross weight rating changes, or changes to the application/effective date of a federal motor vehicle safety standard. If any such alteration occurred, the bus must carry an additional federal label that identifies the alterer, shows when alteration was completed, "as altered" GVWR, GAWR and classification (if changed). It must also state that the altered vehicle conforms to all applicable federal motor vehicle safety standards in effect in (month/year). (49 CFR 567.7)

REJECT VEHICLE IF:

A required label is absent, defaced, destroyed, not riveted, or not permanently affixed. "Permanently affixed" means the label cannot be removed without destroying or defacing it.

A certification label does not contain the required statement and all other information required for that label.

d) CROSSING CONTROL
ARM

PROCEDURES/SPECIFICATIONS:

- 1) Required on school buses manufactured after December 31, 1997.
- 2) Must meet or exceed SAE J1133.
- 3) Must be capable of full operation between, and including, the temperatures -40° F and 160° F.
- 4) The arm, when activated, must extend a minimum of five feet from the front face of the bumper.
- 5) The arm must be mounted on the far right side (entry side) of the front bumper.
- 6) Appropriate brackets shall be used to attach the arm to the front bumper for proper operation and storage.
- 7) All component parts must meet or exceed any applicable federal motor vehicle safety standards in effect at the time of manufacture.

- 8) The arm must extend at the same time the stop arm panel extends. An independent "on/off" switch is prohibited.
- 9) If the driver can stop the arm from extending with the use of an optional override switch, the arm sequence must automatically reset once the service door is closed.
- 10) Red lights and/or red reflectors are prohibited.

REJECT VEHICLE IF:

If equipped, arm does not meet requirements.

e) DEFROSTERS

PROCEDURES/SPECIFICATIONS:

Using heat from heaters and circulation from fans, defrosting equipment shall keep the windshield, the windows to the left of the operator, and the glass in the service door clear of fog, frost, and snow. Must conform to federal standards 49 CFR 571.103.

(Auxiliary fans are not considered to be a defrosting and defogging system.)

REJECT VEHICLE IF:

Defrosting system does not function properly.

Auxiliary fans are not securely mounted or blades are not protected.

f) DRIVE SHAFT
GUARD

PROCEDURES/SPECIFICATIONS:

Shall be of sufficient strength to protect each segment of the drive shaft and prevent it from going through the floor or dropping to the ground if broken.

REJECT VEHICLE IF:

Drive shaft guard is missing, not firmly attached, or does not properly protect each segment of the drive shaft.

(Source: Amended at 22 Ill. Reg. 11889, effective June 30, 1998)

Section 441.APPENDIX D Electrical System through Fenders

a) ELECTRICAL
SYSTEM

1) Circuits

PROCEDURES/SPECIFICATIONS:

Shall be arranged in at least nine regular circuits as follows:

- 1) Head, tail, stop (brake) and instrument panel lamps;
- 2) Clearance lamps and any lamp in or adjacent to step risers;
- 3) Interior lamps;
- 4) Starter motor;
- 5) Ignition, emergency exit alarm signals and other alarm signals;
- 6) Turn signal lamps;
- 7) Alternately flashing signal lamps and stop signal arm lamps;
- 8) Horn;
- 9) Heater and defroster.

A separate fuse or circuit breaker for each circuit, except starter motor and ignition.

REJECT VEHICLE IF:

Breaks in insulation are present. Not on proper circuit or properly wired.

2) Fuses

PROCEDURES/SPECIFICATIONS:

Two extra fuses for each size fuse used on the bus shall be conveniently mounted on the bus body.

REJECT VEHICLE IF:

Fuses are not present or are not conveniently mounted.

3) Switches

PROCEDURES/SPECIFICATIONS:

Check operation and condition.

REJECT VEHICLE IF:

Switches are not operating properly or are missing.

4) Wiring

PROCEDURES/SPECIFICATIONS:

All wires shall be properly insulated and securely attached at not more than 18.1 inches (460 mm) intervals. Check condition.

REJECT VEHICLE IF:

Insulation is frayed or missing. Wiring not securely attached.

b) EMERGENCY EXITS

PROCEDURES/SPECIFICATIONS:

All buses must be equipped with either a rear emergency door or a left side emergency door and a rear emergency window. (49 CFR 571.217)

Additional emergency exits, including roof hatches, may be required on buses manufactured on or after September 1, 1994. (49 CFR 571.217) (See Section 441.Illustration F)

For those buses manufactured on or after May 2, 1994, each opening for a required emergency exit must be outlined around its outside perimeter with a minimum 1 inch (2.54 cm) wide yellow retroreflective tape. This yellow retroreflective tape must be on the exterior surface of the bus. (49 CFR 571.217)

Optional emergency roof hatches are allowed. They must be installed according to manufacturer's specifications.

Open and close roof hatches (required or optional) to verify their operation.

REJECT VEHICLE IF:

Emergency exits do not meet requirements. Roof hatches do not open.

1) Side

PROCEDURES/SPECIFICATIONS:

Inside release mechanism must be protected against accidental release; easily accessible; and readily operated manually without the use of remote control, power device, or tool.

Shall be hinged on front side and open outward. Shall be equipped with safety glass (or equivalent). Glass shall be located in upper portion of the door. Door shall be of at least the same gauge metal as the body. Shall be 24 inches or more clear horizontal opening, with forward edge of opening in line with the rearmost edge of a seat back. Shall have 45 inches or more

clear vertical opening. Door and rubber seal must not be defective. (See Alarms and Locks in this subsection for requirements.)

For buses manufactured on or after September 1, 1994, there must be at least 11.7 inches (30 cm) measured from the door opening to the seat back in front. (49 CFR 571.217)

REJECT VEHICLE IF:

Release mechanism is not protected, accessible, or operable (inside and outside); unable to open easily; hinge is located at incorrect location; location and size of opening is incorrect. General condition of door and/or rubber seal is defective.

2) Rear

PROCEDURES/SPECIFICATIONS:

Inside release mechanism must be protected against accidental release; easily accessible; readily operated manually without use of remote control, power device, or tool.

Shall have permanently attached inside and outside release handles. Outside release handle must be non-hitchable.

Rear exit shall hinge on right; open outwards; have a 24 inch or more clear horizontal opening and 45 inch or more clear vertical opening above floor. Glazing shall be installed in upper and lower portions. Door and rubber seal must not be defective. (See Alarms and Locks in this subsection for requirements.)

Exception: Buses manufactured before September 1974 are exempt from glazing in lower portion of rear emergency door.

REJECT VEHICLE IF:

Inside release mechanism is not protected. Inside and outside release mechanisms are not accessible or do not operate properly. Outside release mechanism is hitchable. Door does not open easily. Location of hinge is incorrect. Size of opening is incorrect. Glazing does not meet requirements. General condition of door and/or rubber seal is defective.

3) Window

PROCEDURES/SPECIFICATIONS:

When the emergency door is located on the left side, a rear emergency window shall be provided. Minimum 16 inches high and 48 inches wide. Designed to be opened from the inside or the outside. Hinged on top, designed and operated to insure against accidental closing in an emergency. Inside handle shall provide for quick release. Outside handle shall be

nondetachable and nonhitchable. (See Alarms and Locks in this subsection for requirements.)

Optional emergency windows are allowed. They must be labeled "Emergency Exit" in letters at least two inches high, of a color that contrasts with its background, located at the top of or directly above the window on the inside surface of the bus.

REJECT VEHICLE IF:

If equipped, operating mechanisms do not function. Glass is cracked or broken.

4) Alarms and
Locks

PROCEDURES/SPECIFICATIONS:

Both audible and visible alarms shall alert the driver when engine is running and any emergency exit door either:

- A) Is not fully latched, or
- B) Is locked and not readily operated manually.

An audible alarm shall alert the driver when engine is running and any emergency exit window either:

- A) Is not fully latched, or
- B) Is locked and not readily operated manually.

The engine starting system shall not operate while any emergency exit door or window (optional or required) is locked from either inside or outside the bus. "Locked" means that the release mechanism cannot be activated and the exit opened by a person at the exit without a special device such as a key or special information such as a combination.

Alarm cut-off or "squelch" control is prohibited.

Exception: No alarm is required for roof hatches.

Exception: On a bus with chassis (incomplete vehicle) manufactured in March 1977 or earlier, the "not fully latched" alarm may only be audible to the seated driver. The engine starting system may operate while the emergency door is locked.

REJECT VEHICLE IF:

Alarms do not alert driver as required. Locks do not meet requirements.

c) ENTRANCE DOOR

1) Physical Requirements

PROCEDURES/SPECIFICATIONS:

Minimum 24 inch horizontal opening. Minimum 68 inch vertical opening. Jack-knife or split type door required on buses purchased after September 1974. If split type door is used and one section opens inward and the other outward, front section shall open outward. Door shall be located on the right side near the front convenient to the seated driver's unobstructed vision. Entrance door shall be power or manually operated from the driver's seat and designed to afford easy release and prevent accidental opening. No parts of the over center door control shall come together so as to shear or crush fingers.

The over center door control must operate properly and must not bind or jam. Vertical closing edges shall be equipped with flexible material for a proper seal and to prevent injury. Lower and upper panels of door shall be of safety glass or equivalent. Bottom of lower panel shall be not more than 35 inches from ground when unloaded. Top of upper glass panel shall be not more than 6 inches from top of door. No door is permitted to left of driver.

A service door equipped with power shall also be capable of manual operation in case of power failure.

Exception: All buses purchased prior to September 1974 are exempt from split type door. They may be split, sedan, or jack-knife type.

REJECT VEHICLE IF:

Binding or jamming is evident, malfunctions, over-ride device on power operated door does not function, control not accessible by driver.

Door is missing, loose, or damaged. Rubber seal is missing or torn.

2) Locks and Alarms

PROCEDURES/SPECIFICATIONS:

A service door lock is not required, but if any type of service door locking system is installed on the bus, the system shall conform to at least one of the following:

- 1) The locking system shall not be capable of preventing the driver from easily and quickly opening the service door from inside the vehicle; or
- 2) A locking system that is capable of preventing the bus driver from easily and quickly opening the service door shall include an audiovisual alarm. The alarm shall be audible and visible and must alert the driver when the engine is running and the service door is locked. An alarm disconnect, "squench control," or other alarm defeating or weakening device shall be prohibited; or

- 3) A locking system shall not be capable of preventing the bus driver from easily and quickly opening the service door except when a person outside the bus uses a key that is not capable of locking more than one of at least 1000 of the door manufacturer's key locking systems.

REJECT VEHICLE IF:

Locks and alarms do not meet requirements. Bent, worn, or dislocated parts that would delay quick door release and opening are present.

d) EXHAUST
SYSTEM

PROCEDURES/SPECIFICATIONS:

1) General

"Exhaust System" includes each component used to conduct gas from an engine exhaust port (manifold) to authorized exit point, including each sealing, connecting, and supporting component. Exhaust system shall be outside body and attached to chassis. Size of tail pipe shall not be reduced after it leaves muffler. Any flexible component that contains exhaust gas shall be of stainless steel. System shall not leak. System shall have an outlet at its discharge end(s) only.

REJECT VEHICLE IF:

All parts of system are not securely fastened and supported.

Any part of system is leaking or missing.

Any part of system contains holes not made by manufacturer.

2) Shielding

PROCEDURES/SPECIFICATIONS:

Any flammable material, electrical insulation, brake hose, or fuel system component containing fuel that is located within 11 13/16 inches (300 mm) of a component containing exhaust gas shall be safeguarded by a heat shield.

Exhaust system shall be shielded from either accidental contact, "hitching to," or "standing on," except at discharge end. A chassis or body component may provide required shield.

Exception: Fuel system components on diesel powered engines that are located within four inches of a component containing exhaust gas shall be shielded.

REJECT VEHICLE IF:

Shielding is not present (if applicable).

3) Discharge

PROCEDURES/SPECIFICATIONS:

The exhaust system's discharge end (tail pipe) shall be within .98 inch (25 mm) of bus side, rear, or rear corner. It must not extend more than one inch past the bumper. Exhaust fumes shall not be directed towards a door or other opening into bus body. In addition, the discharge end, or ends, shall not be located in any prohibited zone shown in Illustration B.

REJECT VEHICLE IF:

Exhaust discharges into prohibited zones (see Illustration B).

Exhaust system (tail pipe) does not discharge in proper location.

Tail pipe extends more than one inch past the bumper.

Exhaust fumes are released towards a door or other opening into bus body.

e) FENDERS

PROCEDURES/SPECIFICATIONS:

Shall be properly braced and free from any body attachment.

There shall be approximately one inch located between front fenders and back face to cowl.

REJECT VEHICLE IF:

Fenders are not solid or in bad condition.

Sharp edges are evident.

Fenders are loose or protrude out.

(Source: Amended at 22 Ill. Reg. 11889, effective June 30, 1998)

Section 441.APPENDIX E Filter, Oil through Frame and Body

a) FILTER, OIL

PROCEDURES/SPECIFICATIONS:

Replaceable element or cartridge type. Minimum one-quart capacity.

REJECT VEHICLE IF:

Oil filter leaks or does not meet requirements.

b) FIRE
EXTINGUISHER

PROCEDURES/SPECIFICATIONS:

Pressurized dry-chemical gauge type approved by Underwriters' Laboratories, Inc., rating of not less than 10 B.C. mounted in bracket and readily accessible. Sealed with a type of seal that will not interfere with operation. If stored in locked compartment, compartment must be labeled. Halon fire extinguishers (10 B.C.) are approved.

REJECT VEHICLE IF:

Gauge does not indicate in the calibrated or marked "Full Charge" area. Seal is broken. Extinguisher is not mounted, not in a quick release holder or not labeled in compartment, if applicable. Improper rating. Missing.

c) FIRST AID KIT

PROCEDURES/SPECIFICATIONS:

Kit shall be readily identifiable, removable, and mounted in readily accessible place in driver's compartment -- either in full view or in secured compartment (see LOCKED COMPARTMENT). If not carried in compartment, the case shall be dust tight and substantially constructed of durable material. The contents shall include, but not be limited to, the following:

Unit Type (Minimum Contents)

4" bandage compress - 2 packages (May be 1 package in bus with chassis [incomplete vehicle] manufactured in March 1977 or earlier.)

2" bandage compress - 2 packages (May be 1 package in bus with chassis [incomplete vehicle] manufactured in March 1977 or earlier.)

1" bandage or adhesive compress - 1 package

40" triangle bandage with two safety pins - 1

Splint, wire or wood - 1

A tourniquet or any type of ointment, antiseptic, or other medicine shall not be included.

AGENCY NOTE: OSHA approved blood-borne pathogen kits are permitted.

REJECT VEHICLE IF:

Kit is not complete. Dust or other visible dirt is present inside case. Minimum number of individual packages are not sealed. Medicine or tourniquet is present. Locked compartment containing kit is not labeled. Not mounted in readily accessible location. Missing.

d) FLOORS AND
FLOOR
COVERING

PROCEDURES/SPECIFICATIONS:

Covering in underseat area, including tops of wheel housings, driver's compartment, interior engine cover, and toeboard shall be covered with fire-resistant floor covering of type commonly used in passenger transportation equipment. The floor covering in the aisle and entrance area shall be a nonskid, wear-resistant, and fire-resistant type commonly used in commercial passenger transportation vehicles. Covering and metal floor stripping must be permanently bonded to floor and must not crack when subjected to sudden changes in temperature. Bonding or adhesive material shall be waterproof. All seams must be sealed with waterproof sealer.

All openings in floorboard or firewall between chassis and passenger-carrying compartment must be solid and sealed. Interior engine cover must be securely fastened.

Boots and seals around shift levers, emergency brakes and interior engine covers must be secure and solidly attached.

REJECT VEHICLE IF:

Abnormal wear and obstructions are present. Holes or openings are present in floors, floor covering, or boots. Metal floor stripping is not securely attached or broken. Interior engine cover is not fastened securely. Floor or floor covering does not meet requirements.

e) FRAME AND
BODY

PROCEDURES/SPECIFICATIONS:

Visually inspect:

- 1) Body mounts shall be attached and sealed to the chassis cowl so as to prevent the entry of water, dust or fumes through the joint between the chassis cowl and the body.
- 2) Cross members and mounting bolts.
- 3) Engine mounting bolts.

- 4) Frame shall extend to rear of body cross member.
- 5) Frame extension is permitted when alterations are behind rear hanger or rear springs and not for the purpose of extending wheel base.
- 6) Collision damage which is detrimental to the safe operation of the vehicle.

REJECT VEHICLE IF:

- 1) Cracked, loose, missing bolts. Any repair done by welding body to frame, insulation strip missing.
- 2) Loose, cracked, broken or missing.
- 3) Missing, loose.
- 4) Cracked, broken, bent, rusted to a depth as to substantially weaken frame - welding except by body manufacturer.
- 5) Unless permitted, frame extends past wheel base.
- 6) Collision damage which is detrimental to the safe operation of the vehicle.

(Source: Amended at 22 Ill. Reg. 11889, effective June 30, 1998)

Section 441.APPENDIX F Fuel Storage and Delivery System through Horn

a) FUEL STORAGE
AND DELIVERY
SYSTEM

PROCEDURES/SPECIFICATIONS:

Entire fuel system, except extensions for driver control of air or fuel, must be outside passenger and driver compartment.

REJECT VEHICLE IF:

Any part of fuel system, except extensions for driver control of air or fuel, is within passenger/driver compartment.

1) Fuel Filler
Cap

PROCEDURES/SPECIFICATIONS:

Meets manufacturer's specifications. Must be the same as or equivalent to original equipment.

REJECT VEHICLE IF:

Fuel filler cap is defective or missing.

2) Fuel Lines

PROCEDURES/SPECIFICATIONS:

Firmly attached. No leakage, seepage, abrasion, or chafing. Must be 11 13/16 inches (300 mm) from any part of exhaust system that contains exhaust gas or be safeguarded by a heat shield. Inside engine compartment, the chassis manufacturer's standard shall govern separation and shielding between parts designed by chassis manufacturer.

Exception: Fuel system components on diesel powered engines that are located within four inches of a component containing exhaust gas must be shielded.

REJECT VEHICLE IF:

Fuel lines are cracked, leaking, insecure mounting, damaged, clamps missing, mount clips missing or not separated or not shielded properly (if applicable).

3) Fuel Filler
Tube

PROCEDURES/SPECIFICATIONS:

Check condition.

REJECT VEHICLE IF:

Fuel filler tube leaks or is not secure.

4) Fuel Pump

PROCEDURES/SPECIFICATIONS:

Check condition.

REJECT VEHICLE IF:

Fuel pump leaks, is damaged or is not secure.

5) Fuel Tank(s)

PROCEDURES/SPECIFICATIONS:

Tank must be safeguarded by structure that protects from side or angular impact blows. (49 CFR 571.301)

Exception: A bus with chassis (incomplete vehicle) manufactured in March 1977 or earlier is exempt from being equipped with a tank guard structure.

REJECT VEHICLE IF:

Fuel tank(s) have leakage, seepage, or abrasion; hole or crack that would leak or seep when tank is full.

6) Fuel tank
mount(s)

PROCEDURES/SPECIFICATIONS:

Check condition.

REJECT VEHICLE IF:

Fuel tank mount(s) are cracked, loose, or bolts are missing.

7) Fuel tank
straps

PROCEDURES/SPECIFICATIONS:

Check condition.

REJECT VEHICLE IF:

Fuel tank straps are cracked, loose, or missing.

8) Alternate
Fuel Systems
(LPG or CNG)

An alternate fuel system which is no longer in use must be completely removed from the vehicle.

A) Carburetion
Equipment

A fuel filter is required on alternate fuel systems.

B) Container
Installation

- i) Compressed or liquefied gas containers shall not be mounted in the passenger or driver's compartment.
- ii) Container valves, appurtenance and connections shall be mounted in an enclosed compartment.
- iii) Containers shall be located at least 36 inches from the entrance door and any emergency exit. Due to the smaller size of Type II school buses, space limitations may sometimes make it impossible to locate a fuel tank further than 36 inches from an exit. *A Type II school bus has a gross vehicle weight rating of 10,000 pounds or less [625 ILCS 5/12-800] as defined in Section 12-800 of the Illinois Vehicle Equipment Law. If the original fuel tank for a Type II bus was located within 36 inches from any exit, the alternate fuel container may be located in the same location as the original tank.*

C) Identification

The fuel identification decal (See Section 441.Illustration D.) shall be displayed near the rear bumper and visible

from the rear of the vehicle. The decal shall not be placed on any black portion of the bus body.

D) Pipe and Hose
Installation

- i) No fuel supply line shall pass through the driver or passenger's compartment.
- ii) The pressure relief device shall be fabricated so that in the event of stress, the pipe or adapter will break away without impairing the function of the relief valve.
- iii) If installed, the adapter connecting the piping system to the pressure relief device shall neither touch nor restrict any movable part of the pressure relief valve.
- iv) The relief valve discharge piping system (piping system) must not be reduced at any point from the relief valve to the point of release into the atmosphere.
- v) The piping system shall be routed to minimize sharp elbows or bends. Installation of any commercially available piping installed to meet the manufacturer's specifications is acceptable. Any fittings that restrict the flow of discharge are prohibited. From the pressure relief device adapter to the atmosphere, the minimum inside diameter of the piping must measure at least 3/4 of an inch.
- vi) The piping system shall neither block nor hamper the operation of any window or door. The piping system shall preserve widths of passageways, aisles and emergency exits.
- vii) Every portion of the piping system shall be gas tight (except the outlet) and shall be able to withstand forces from the discharge when the relief valve is in full open position. If for any reason the discharge outlet becomes blocked, the piping system must be capable of holding the full system pressure.
- viii) To facilitate the removal of accumulated water, a drain cock shall be installed at the lowest point of the piping system. The drain must be capable of being held open manually and close automatically to prevent expelling LPG if discharged through the relief valve. A weep hole, or other opening that may result in discharged LPG flaming beneath the bus is prohibited.
- ix) The portion of the piping system that leads upward to the atmosphere shall be installed either inside the passenger

compartment, on the outside of the bus, or in the body wall between the inner and outer "skins" of the bus body.

- x) Piping on the outside of the body shall be shielded below the window line to prevent "grabbing hold" or "hitching to." However, discharge piping that is located between the windshield and the vent window at the left front corner of the body need not be shielded.
- xi) Any portion of the piping system that is installed either inside the passenger compartment or inside the body wall shall consist of one piece originating below the bus floor and exiting outside the bus roof. Every hole where piping passes through the floor or roof shall be sealed.
- xii) The piping system must terminate above the eave lines of the bus body.
- xiii) The outlet of the piping system shall be located at least 36 inches from the air inlet or outlet of a ventilator or similar device installed on or near the roof. A "similar device" includes the fresh air intake of a heating, ventilating or air conditioning system. It does not include a side window that opens near the roof.
- xiv) A rain cap is required where the piping system exits into the atmosphere to minimize water or dirt from entering into either the relief valve or its discharge piping. Installation of any commercially available rain cap installed to meet the manufacturer's specifications is acceptable. The cap shall remain in place except when the relief valve operates. The cap shall be installed to minimize the entrance of water or dirt while the vehicle is in motion.
- xv) The discharge piping system on a special education school bus shall conform to all provisions of this Part.

REJECT VEHICLE IF:

Alternate fuel system does not meet requirements listed above.

b) GRAB HANDLES

1) Exterior

PROCEDURES/SPECIFICATIONS:

At least one step grab handle shall be located on each side at front of body so as to provide easy access to windshield.

REJECT VEHICLE IF:

Exterior grab handles are missing or loose.

2) Interior

PROCEDURES/SPECIFICATIONS:

Stainless clad steel with measurements not less than 10 inches long located in unobstructed location inside doorway.

As instructed by an officer of the Department, draw a 1/2 inch hexagon nut attached to a string through the junction where the grab handle attaches to the lower stepwell.

REJECT VEHICLE IF:

Interior grab handles are missing or are not solidly attached.

Nut becomes lodged on the grab handle. (Retrofit kit is required.)

c) HEATERS

PROCEDURES/SPECIFICATIONS:

Nameplate must identify manufacturer and heater rating capacity. Must be capable of maintaining inside temperature of 50 degrees. The heater hoses shall be supported to guard against excessive wear due to vibration and shall not interfere with or restrict the operation of any engine function. Any hose in the passenger compartment shall be protected to prevent injury from burns in the event of rupture. If heater is not protected by a seat, it must be padded.

REJECT VEHICLE IF:

Heater is missing; in poor working condition; defective hoses, supports or baffles; not firmly attached or not padded when required.

d) HOOD

PROCEDURES/SPECIFICATIONS:

Open hood and inspect safety catch and hinges for proper operation. Close hood and inspect for proper full closure. Manually inspect latches or remote control for proper operation.

REJECT VEHICLE IF:

Hood does not open or hood latches do not securely hold hood in its proper fully-closed position. Secondary or safety catch does not function properly. Hinge is broken, missing, or not attached to body.

e) HORN

PROCEDURES/SPECIFICATIONS:

At least one horn shall be provided giving an audible warning at a distance of 200 feet and shall be conveniently controlled from the operator's seated position. (Section 12-601 of the Illinois Vehicle Equipment Law)

REJECT VEHICLE IF:

Horn control is missing, defective or not audible.

(Source: Amended at 22 Ill. Reg. 11889, effective June 30, 1998)

Section 441.APPENDIX G Instruments and Instrument Panel through Locked Compartment

a) INSTRUMENTS
AND INSTRUMENT
PANEL

PROCEDURES/SPECIFICATIONS:

Shall be equipped with the following nonglare illuminated instruments and gauges mounted for easy maintenance and repair and in such a manner that each is clearly visible to the seated driver. An indicator light instead of a pressure or temperature gauge is permissible. (49 CFR 571.101)

- 1) Speedometer;
- 2) Odometer;
- 3) Fuel Gauge;
- 4) Oil Pressure Gauge;
- 5) Water Temperature Gauge;
- 6) Ammeter (voltmeter) with graduated charge and discharge indications;
- 7) High beam headlight indicator;
- 8) Directional signal indicator;
- 9) Air pressure or vacuum gauge (when air or vacuum brakes are used);
- 10) Eight light flasher indicator;
- 11) Emergency/service brake indicator.

REJECT VEHICLE IF:

Instruments or instrument panel do not operate properly; instruments are missing; inaccurate readings.

b) INSULATION

PROCEDURES/SPECIFICATIONS:

The ceiling and sidewalls shall be thermally insulated with a fire-resistant material which shall reduce the noise level and vibrations.

REJECT VEHICLE IF:

Insulation does not meet requirements.

c) LETTERING

1) Exterior

PROCEDURES/SPECIFICATIONS:

The body and chassis manufacturer's name, emblem, or other identification may be displayed (colorless or any color) on any unglazed surface of the bus.

AGENCY NOTE: School buses with interstate authority may display the company's name, city and state of its base and the interstate "MC" number. This lettering must be black in color.

REJECT VEHICLE IF:

Exterior lettering does not meet requirements. Lettering or decals are not distinct, required or allowed. Lettering is obstructed.

A) Front

PROCEDURES/SPECIFICATIONS:

"SCHOOL BUS" in black at least eight inches (200 mm) high placed as high as possible on body or sign attached thereto. Vehicle number assigned for identification shall be a minimum of four inches (100 mm) high and located as high as practicable. Decals are permissible. All lettering must be black. (Section 12-802 of the Illinois Vehicle Equipment Law)

REJECT VEHICLE IF:

Lettering does not meet requirements. Lettering is not distinct, required or allowed. Lettering is obstructed.

B) Left

PROCEDURES/SPECIFICATIONS:

Either the owner's name or the school district number or both must be at least four inches high, approximately centered and as high as practicable below window line. (Section 12-802 of the Illinois Vehicle Equipment Law) The above required lettering must be located on one line.

If the bus is equipped with a side emergency door, it must be labeled "EMERGENCY EXIT" in letters at least two inches high directly at the top of the emergency door, or directly above, or on door glazing.

Optional: Vehicle number assigned for identification may be displayed at a minimum height of four inches (100 mm).

Decals are permissible. All lettering must be black.

For buses manufactured on or after May 2, 1994, "EMERGENCY DOOR" in letters at least 1.95 inches (5 cm) high must be located at the top of, or directly above, any emergency exit door. For any emergency window exit, "EMERGENCY EXIT" must be located at the top of, or directly above, or at the bottom of the emergency window exit in letters at least 1.95 inches (5 cm) high. The labeling must be of a color that contrasts with its background. (49 CFR 571.217)

REJECT VEHICLE IF:

Lettering does not meet requirements. Lettering is not distinct, required, or allowed. Lettering is obstructed.

C) Rear

PROCEDURES/SPECIFICATIONS:

"SCHOOL BUS" in black lettering at least eight inches (200 mm) high placed as high as possible on body or sign attached thereto. (Section 12-802 of the Illinois Vehicle Equipment Law)

"EMERGENCY DOOR" or "EMERGENCY EXIT" in lettering at least two inches high at top of emergency door, or directly above, or on door glazing.

"EMERGENCY EXIT" (for buses without rear emergency door) in letters at least two inches high directly below rear emergency window, or on exit glazing. An arrow, at least 5.9 inches in length and 3/4 inch in width indicating direction each release mechanism should be turned to open door or window located within 5.9 inches of release handle, in black. Vehicle number assigned for identification shall be a minimum 4 inches (100 mm) high. Decals are permissible. All lettering must be black.

If bus uses alternate fuel (e.g., propane, CNG), vehicle must be marked with identifying decal. Such decal shall be diamond shaped with white or silver scotchlite letters one inch in height and a stroke of the brush at least 1/4 inch wide on a black background with a white or silver scotchlite border bearing either the words or letters:

"PROPANE" = If propelled by liquefied petroleum gas other than liquefied natural gas; or

"CNG" = If propelled by compressed natural gas. The sign or decal shall be maintained in good legible condition.

The alternate fuel decal shall be displayed near the rear bumper and visible from the rear of vehicle. (See Appendix F(a)(8) and Section 441.Illustration D.) (Section 12-704.3 of the Illinois Vehicle Equipment Law)

For buses manufactured on or after May 2, 1994, "EMERGENCY DOOR" in letters at least 1.95 inches (5 cm) high must be located at the top of, or directly above, any emergency exit door. For any emergency window exit, "EMERGENCY EXIT" must be located at the top of, or directly above, or at the bottom of the emergency window exit in letters at least 1.95 inches (5 cm) high. The labeling must be of a color that contrasts with its background. (49 CFR 571.217)

REJECT VEHICLE IF:

Lettering does not meet requirements. Lettering or arrows are not distinct, required, or allowed. Lettering is obstructed.

Buses using alternate fuels are not properly marked with decal. Decal is in wrong location.

D) Right

PROCEDURES/SPECIFICATIONS:

Either the owner's name or the school district number or both must be at least four inches (100 mm) high, approximately centered and as high as possible below window line. (Section 12-802 of the Illinois Vehicle Equipment Law) The above required lettering must be located on one line.

The following lettering must be at least two inches (50 mm) high:

- 1) *The word "CAPACITY," or abbreviation "CAP.," and the rated passenger capacity followed by the word "PASSENGERS," or the abbreviation "PASS.," shall be displayed on the outside of the body near the rear edge of the service entrance.*
- 2) *Empty weight in pounds must be shown. Empty weight is indicated by "EW." (Section 12-802 of the Illinois Vehicle Equipment Law)*

Manufacturer's identification name or emblem may be displayed, but not on service door glazing. Manufacturer's name or emblem

must not interfere with required lettering. Decals are permissible. All lettering must be black.

For buses manufactured on or after May 2, 1994, "EMERGENCY DOOR" in letters at least 1.95 inches (5 cm) high must be located at the top of, or directly above, any emergency exit door. For any emergency window exit "EMERGENCY EXIT" must be located at the top of, or directly above, or at the bottom of the emergency window exit in letters at least 1.95 inches (5 cm) high. The labeling must be of a color that contrasts with its background. (49 CFR 571.217)

REJECT VEHICLE IF:

Lettering does not meet requirements. Lettering or decals are not distinct, required, or allowed. Lettering is obstructed.

2) Interior

A) Front

PROCEDURES/SPECIFICATIONS:

Each letter or numeral must be at least two inches (50 mm) high and contrasting sharply with its background. A colorless background strip (such as white, aluminum or silver) may be used. Decals are permitted.

On right side: Either "CAPACITY" or "CAP." plus numerals showing rated passenger capacity, followed by either "PASSENGER" or "PASS."

As nearly as practicable opposite the center of aisle, but to right of inside mirror, either "NO STANDEES" or "NO STANDEES PERMITTED."

The vehicle's length (rounded up to nearest whole foot) shall be displayed on the bulkhead clearly within the driver's view. (For example: vehicle length of 39.1 feet will be displayed as 40 feet.)

A red cross formed of five equal squares with words "FIRST-AID KIT" shall be displayed on the compartment door, or cover, if the first-aid kit is to be carried in the locked compartment.

The words "FIRE EXTINGUISHER" shall be displayed on the compartment door, or cover, if the fire extinguisher is to be carried in the locked compartment.

Exception: On a bus with chassis (incomplete vehicle) manufactured in March 1977 or earlier, "NO STANDEES" need not be opposite center of aisle and the word "PASSENGERS," or "PASS.," is optional.

REJECT VEHICLE IF:

Lettering does not meet requirements. Lettering is not distinct, required or allowed. Lettering is obstructed.

After January 1, 1999, vehicle length is not displayed properly or is absent.

B) Left

PROCEDURES/SPECIFICATIONS:

A "Stop Line" in contrasting color is required between 5.9 and 6.1 inches below the top of the window opening. The line shall be located between each window that slides downward.

If bus is equipped with a side emergency door or emergency windows which are knock-out type, they are to be labeled "EMERGENCY EXIT" in letters at least two inches high directly below window.

An arrow indicating the direction in which to move release mechanism handle(s) to open emergency exit and operating instructions shall be painted or permanently affixed within six inches of each release handle.

For buses manufactured on or after May 2, 1994, "EMERGENCY DOOR" in letters at least 1.95 inches (5 cm) high must be located at the top of, or directly above, any emergency exit door. For any emergency window exit, "EMERGENCY EXIT" must be located at the top of, or directly above, or at the bottom of the emergency window exit in letters at least 1.95 inches (5 cm) high. The labeling must be of a color that contrasts with its background. Concise operating instructions describing the motions necessary to unlatch and open the door must be located within 5.85 inches (15 cm) of the release mechanism on the inside surface of the bus. These operating instructions shall be in letters at least .39 inches (1 cm) high and of a color that contrasts with its background. (49 CFR 571.217)

REJECT VEHICLE IF:

Lettering does not meet requirements. Line or line and lettering is not distinct, required, or allowed. Lettering is obstructed.

C) Rear

PROCEDURES/SPECIFICATIONS:

"EMERGENCY DOOR" or "EMERGENCY EXIT" in letters at least two inches (50 mm) high painted or permanently affixed either directly above each emergency exit, or on top metal of exit

(door or window), or on top of exit glazing. An arrow indicating the direction in which to move release mechanism handle(s) to open emergency exit and operating instructions shall be painted or permanently affixed within six inches of each release handle. All lettering and arrow(s) must contrast with background. Decals are permitted.

For buses manufactured on or after May 2, 1994, "EMERGENCY DOOR" in letters at least 1.95 inches (5 cm) high must be located at the top of, or directly above, any emergency exit door. For any emergency window exit, "EMERGENCY EXIT" must be located at the top of, or directly above, or at the bottom of the emergency window exit in letters at least 1.95 inches (5 cm) high. The labeling must be of a color that contrasts with its background. Concise operating instructions describing the motions necessary to unlatch and open the door must be located within 5.85 inches (15 cm) of the release mechanism on the inside surface of the bus. These operating instructions shall be in letters at least .39 inches (1 cm) high and of a color that contrasts with its background. (49 CFR 571.217)

REJECT VEHICLE IF:

Lettering does not meet requirements. Lettering is not distinct, required, or allowed. Lettering is obstructed.

D) Right

PROCEDURES/SPECIFICATIONS:

A "Stop Line" in contrasting color is required between 5.9 and 6.1 inches below the top of the window opening. The line shall be located between each window that slides downward. Decals are permitted.

If emergency window is installed, "EMERGENCY EXIT" shall be displayed on or immediately below emergency window.

Instructions for emergency operation of a power operated door shall be affixed permanently on the inside of the door in letters at least .5 (one half) inch high. Decals are permitted.

Optional route identification markers (numbers or symbols) are allowed. They must be located in the first window directly behind the service entrance door. If route identification markers are installed in permanent holder or bracket, the holder or bracket must have rounded edges or be padded.

For buses manufactured on or after May 2, 1994, "EMERGENCY DOOR" in letters at least 1.95 inches (5 cm) high must be located at the top of, or directly above, any side emergency door. For any emergency window exit "EMERGENCY EXIT" in letters at

least 1.95 inches (5 cm) high must be located at the top of, or directly above, or at the bottom of the emergency window exit. The labeling must be of a color that contrasts with its background. Concise operating instructions describing the motions necessary to unlatch and open the exit must be located within 5.85 inches (15 cm) of the release mechanism on the inside surface of the bus. These instructions shall be in letters at least .39 inches (1 cm) high and of a color that contrasts with its background. (49 CFR 571.217)

REJECT VEHICLE IF:

Right interior lettering does not meet requirements. Line or line and lettering is not distinct, required, or allowed. Lettering is obstructed.

E) Ceiling

PROCEDURES/SPECIFICATIONS

For buses manufactured on or after May 2, 1994, any roof exit must be labeled "EMERGENCY EXIT" in letters at least 1.95 inches (5 cm) high, of a color that contrasts with its background. The labeling must be located on an inside surface of the exit, or within 11.7 inches (30 cm) of the roof exit opening. Concise operating instructions describing the motions necessary to unlatch and open the emergency exit shall be located within 5.85 inches (15 cm) of the release mechanism. These instructions shall be in letters at least .39 inches (1 cm) high and of a color that contrasts with its background. (49 CFR 571.217)

REJECT VEHICLE IF:

Lettering does not meet requirements.

d) LIGHTS

1) Back Up

PROCEDURES/SPECIFICATIONS:

Two white lights shall be provided. Must meet federal standards. (49 CFR 571.108)

Exception: All buses purchased prior to September 1974 are exempt; however, for any unit equipped with back up lamps, they must be operational.

REJECT VEHICLE IF:

Back-up lights do not function; illegal color; broken lens.

2) Clearance,
Front

PROCEDURES/SPECIFICATIONS:

Two clearance lights (amber) at highest and widest portions of the body. Must conform to federal standards. (49 CFR 571.108)
May be combined with side marker lamp.

REJECT VEHICLE IF:

Front clearance lights do not function; improper color; broken lens.

3) Clearance,
Rear

PROCEDURES/SPECIFICATIONS:

Two clearance lights (red) mounted at highest and widest parts of body. Must conform to federal standards. (49 CFR 571.108)

REJECT VEHICLE IF:

Rear clearance lights do not function; improper color; broken lens.

4) Identification,
Front

PROCEDURES/SPECIFICATIONS:

Three amber lights mounted at center front near top of body above "SCHOOL BUS" sign. Must conform to federal standards. (49 CFR 571.108)

REJECT VEHICLE IF:

Front cluster lights do not function properly; improper color; broken lens.

5) Identification,
Rear

PROCEDURES/SPECIFICATIONS:

Three red lights mounted at center rear near top of body either above or below "SCHOOL BUS" sign. Must conform to federal standards. (49 CFR 571.108)

REJECT VEHICLE IF:

Rear cluster lights do not function properly; improper color; broken lens.

6) Flashing
Lights

PROCEDURES/SPECIFICATIONS:

All school buses shall be equipped with an eight light flashing signal system with two red and two amber flashing signal lamps mounted above windshield spaced no less than three feet apart

and at same horizontal level. The rear of the vehicle shall be equipped with two red and two amber flashing signal lamps mounted and spaced no less than three feet apart and at same horizontal level. Minimum diameter 5 1/2 inch sealed beam. (Section 12-805 of the Illinois Vehicle Equipment Law) The red lights must be located on the outside perimeters of the bus and the yellow lights must be located between the red lights towards the center.

A separate circuit breaker and a master switch shall be provided for this signal system. When in its "off" position this master switch shall prevent the following:

- 1) Operation of the 8 lamp system;
- 2) Operation of any lamps mounted on the stop signal arm; and
- 3) Operation of any electrically controlled mechanism that would cause the stop signal arm to extend.

The controls for the eight lamp flashing signals, the stop signal arm and the service entrance door shall be arranged so as to provide for the following sequence of operations while the engine is running.

- 1) Place the alternately flashing signal system master switch in its "off" position. Close and secure the service entrance door. Actuate the alternately flashing signal system hand or foot control. The alternately flashing signal lamps of either yellow (amber) or red color shall not go on.
- 2) With the master switch "off" and the hand or foot control actuated, open the service door. The alternately flashing signals of either color shall not go on and the stop signal arm shall not extend.
- 3) Deactivate the hand or foot control. Place the alternately flashing signal system master switch in its "on" position. Close and secure the service door. Open the service door. The alternately flashing signal lamps of either color shall not go on and stop signal arm shall not extend.
- 4) Close and secure the service door. Actuate the alternately flashing signal system by hand or foot control. A yellow pilot lamp in the view of the driver and the yellow alternately flashing signals shall go on.
- 5) Desecure but do not open the service door. The yellow pilot and the yellow alternately flashing signals shall go

off. A red pilot lamp in the view of the driver and the red alternately flashing signals shall go on. The stop signal arm shall extend.

- 6) Fully open the service door. The red pilot and red signals shall remain on and the stop arm shall remain extended.
- 7) Close but do not secure the service door. The red pilot and red signals shall remain on and the stop arm shall remain extended.
- 8) Open the service door. The red pilot and red signals shall remain on and the stop arm remain extended.
- 9) Close and secure the service door. The red pilot and red signals shall go off and the stop arm shall retract.
- 10) Open the service door. Alternately flashing signals of either color shall not go on and the stop arm shall not extend.

REJECT VEHICLE IF:

Flashing lights do not function properly; broken lens or improper lens color. Pilot lights do not function.

7) Headlights

PROCEDURES/SPECIFICATIONS:

Shall have at least two headlamps with at least one mounted on each side of the front of the bus. Lamp body must be securely attached. Lenses, reflectors, bulbs, etc., must be in good condition, properly aimed and fill required intensity. Check for bulb burn out. Verify high and low beams are functioning. Shall conform to federal standards. (49 CFR 571.108)

REJECT VEHICLE IF:

Headlights do not meet requirements. High/low beams do not function.

8) Interior

PROCEDURES/SPECIFICATIONS:

Adequate to illuminate aisles, step well, and emergency passageways.

REJECT VEHICLE IF:

Interior lights do not provide adequate lighting; cracked or broken lenses; improper color.

9) License Plate

PROCEDURES/SPECIFICATIONS:

Adequate white light to illuminate license plate. (49 CFR 571.108)
May be combined with one of the tail lights.

REJECT VEHICLE IF:

License plate light does not provide adequate lighting; cracked or broken lenses; improper color.

10) Parking
Lights

PROCEDURES/SPECIFICATIONS:

Shall be one lamp on each side; white or amber color. (49 CFR 571.108)

All buses 80 or more inches in overall width which are equipped with side marker lamps, clearance lamps, and intermediate side marker lamps are exempt from having parking lights. However, if vehicle is equipped with parking lights, they must be operational. (Section 12-202 of the Illinois Vehicle Equipment Law)

REJECT VEHICLE IF:

Parking lights do not meet requirements; improper color; cracked or broken lenses.

11) Sidemarker, Left

PROCEDURES/SPECIFICATIONS:

Two lamps: one amber at front and one red at rear, mounted as high as practicable. Shall conform to federal standards. (49 CFR 571.108)

Exception: All buses purchased prior to September 1974 are exempt.

REJECT VEHICLE IF:

Left marker lights do not meet requirements; does not function properly; improper color; cracked or broken lenses.

12) Sidemarker, Right

PROCEDURES/SPECIFICATIONS:

Two lamps: one amber at front and one red at rear, mounted as high as practicable. Shall conform to federal standards. (49 CFR 571.108)

Exception: All buses purchased prior to September 1974 are exempt.

REJECT VEHICLE IF:

Right marker lights do not meet requirements; improper color; cracked or broken lenses.

13) Step Well

PROCEDURES/SPECIFICATIONS:

At least the nosings of the service entrance steps and the floor around the stepwell shall be automatically illuminated with white light when the ignition is on and the service entrance door is open.

No lamp shall be installed so as to shine directly into the eyes of a pupil moving through the service entrance and looking at the service steps.

Exception: On a bus with chassis (incomplete vehicle) manufactured in March 1977 or earlier, a stepwell light that does not illuminate all the step nosings or does not illuminate the floor around the service entranceway may be used.

REJECT VEHICLE IF:

Step well light does not meet requirements; improper color; cracked or broken lenses.

14) Stop

PROCEDURES/SPECIFICATIONS:

Two red lights mounted at same height and as high as practicable below window line. Seven inch minimum diameter or 19 square inches. Not less than three feet apart laterally. Must conform to federal standards. (49 CFR 571.108)

REJECT VEHICLE IF:

Stop lights do not meet requirements; improper color; cracked or broken lenses; do not function properly.

15) Strobe
(optional)

PROCEDURES/SPECIFICATIONS:

If installed, lamp must comply with following requirements:

- 1) *One per bus;*
- 2) *Shall emit white or bluish/white light;*
- 3) *Shall be visible from any direction;*
- 4) *Shall flash 60 to 120 times per minute;*
- 5) *Shall be visible in normal sunlight;*
- 6) *Mounted at or behind center of rooftop and equal distance from each side. (Section 12-815 of the Illinois Vehicle Equipment Law)*

Distance from rear will be calculated by measuring height of filament and multiplying same by 30 inches. (i.e., Filament height x 30 = distance from rear of bus where lamp is to be located)

REJECT VEHICLE IF:

If installed, strobe light does not meet installation requirements; does not function properly; improper color; cracked or broken lenses.

Shielding is present.

16) Tail

PROCEDURES/SPECIFICATIONS:

Two red lights mounted with centers not less than 40 inches nor more than 50 inches from surface on which vehicle stands. Must conform to federal standards. (49 CFR 571.108)

REJECT VEHICLE IF:

Tail lights do not meet requirements; do not function properly; improper color; cracked or broken lenses.

17) Turn
Signal,
Left
(armored)

PROCEDURES/SPECIFICATIONS:

"Armored" type amber clearance lamp mounted behind driver's seat at seat level and rub rail height. Functions with regular turn signal.

Exception: All buses purchased prior to September 1974 are exempt from having left armored turn signals.

Exception: Buses with capacity rating of less than 33 passengers are exempt. Buses manufactured in August 1974 or earlier are exempt. Buses that measure less than 80 inches wide or 20 feet long are exempt.

REJECT VEHICLE IF:

Left turn signal light does not meet requirements; does not function properly; improper color; cracked or broken lenses.

18) Turn
Signal,
Right
(armored)

PROCEDURES/SPECIFICATIONS:

"Armored" type amber clearance lamp mounted at approximately seat level and rub rail height just to rear of service door. Functions with regular turn signal lamps.

Exception: All buses purchased prior to September 1974 are exempt from having right armored turn signals.

Exception: Buses with capacity rating of less than 33 passengers are exempt. Buses manufactured in August 1974 or earlier are exempt. Buses that measure less than 80 inches wide or 20 feet long are exempt.

REJECT VEHICLE IF:

Right turn signal light does not meet requirements; does not function properly; improper color; cracked or broken lenses.

19) Turn
Signal,
Front

PROCEDURES/SPECIFICATIONS:

One amber lamp at least four inches in diameter, or 12 1/2 square inches, located on each side at or near the front. They shall be located at the same height and as far apart as practicable. Lamps must conform to federal standards. (49 CFR 571.108)

Operate turn signals and four-way warning hazards to check performance of front and rear lights.

REJECT VEHICLE IF:

Front turn signal lights do not meet requirements; do not function properly; improper color; cracked or broken lenses.

Four-way warning hazards do not operate properly.

20) Turn
Signal,
Rear

PROCEDURES/SPECIFICATIONS:

Chassis manufactured after March 31, 1977, must have two 7 inch diameter, or 19 square inch, amber lenses mounted on the rear as far apart and as high as practicable below rear window. (49 CFR 571.108)

Exception: Chassis manufactured prior to April 1, 1977, may have yellow or red turn signals with arrow lenses. (49 CFR 571.108)

REJECT VEHICLE IF:

Rear turn signal lights do not meet requirements; improper color; do not function properly; cracked or broken lenses.

e) LOCKED
COMPARTMENT

PROCEDURES/SPECIFICATIONS:

Fire extinguisher, first-aid kit, and warning devices may be stored either in a closed, unlocked compartment or under lock and key, provided the locking device is connected with an automatic warning signal that will alert driver when compartment is locked. The automatic alarm shall be both audible and visible to the seated driver. The alarm shall alert the driver when the engine is running and the compartment is locked and cannot be readily opened without using a tool, key, or combination. An alarm cut-off or "squelch" control is prohibited.

Each safety item inside the compartment shall be named on the outside of the compartment cover, or door. In addition, a RED CROSS formed of five equal squares shall be displayed on the cover when the first aid kit is inside the compartment.

Exception: A bus with chassis manufactured in March 1977 or earlier need not have a visible alarm.

REJECT VEHICLE IF:

Locked compartment is not readily accessible to driver; lettering or identification missing; alarm does not function properly when compartment is locked and vehicle is running.

(Source: Amended at 22 Ill. Reg. 11889, effective June 30, 1998)

Section 441.APPENDIX H Mirrors through Rub Rails

a) MIRRORS

PROCEDURES/SPECIFICATIONS:

Every required mirror shall be of reflecting material protected from abrasion, scratching, and corrosion. Mirror shall be firmly installed on stable supports so as to give a clear, stable, reflected view. Mirrors must meet all requirements of 49 CFR 571.111 to provide the required field of view.

Convex crossover mirrors can be combined with either the right or left side safety mirrors provided the convex mirror meets the field of view and size requirements established in this subsection or in 49 CFR 571.111.

REJECT VEHICLE IF:

Mirrors do not meet requirements; defective; excessively clouded; not securely attached; cracked or broken glass.

1) Exterior

A) Rear View Driving

PROCEDURES/SPECIFICATIONS:

Shall be mounted outside on the left and right sides of the bus. Must give seated driver a view to the rear along each side of the bus. Must be at least 50 square inches of usable flat rectangular reflecting surface on each side. (49 CFR 571.111)

If the rear view driving mirror does not provide the required field of view, a convex driving mirror must be installed to expand the driving view to the rear. However, the usable flat reflecting surface must be rectangular and must maintain at least 50 square inches.

REJECT VEHICLE IF:

Rear view driving mirror does not meet requirements; defective; excessively clouded; not adjustable; not securely attached; cracked or broken glass.

B) Right Side Safety

PROCEDURES/SPECIFICATIONS:

An outside convex mirror, either alone or in combination with the crossover mirror system, shall give the seated driver a view of the roadway along the right side of the bus between the most forward surface of the right front tire and the rear of the rear bumper. The projected reflecting surface of this convex mirror shall be at least 40 square inches (7 1/8 inches diameter if a circle).

Extra-wide-angle convex mirror heads are permissible on right front corner only.

Exception: A right safety mirror is optional on a bus manufactured in August 1974 or earlier.

REJECT VEHICLE IF:

Right side safety mirror does not meet requirements; defective; excessively clouded; not securely attached; cracked or broken glass.

C) Left Side
Safety
(Optional)

PROCEDURES/SPECIFICATIONS:

A convex mirror is required if the left rear view driving mirror system does not give the seated driver a reflected view of the roadway along the left side of the bus between the front edge of the driver's seat (in most forward position) and the rear of the rear bumper. The convex mirror shall be installed so that either alone or in combination with the rear view driving mirror gives the seated driver the proper view.

Exception: A left safety mirror is optional on a bus with chassis manufactured in March 1977 or earlier.

REJECT VEHICLE IF:

Left side safety mirror does not meet requirements; defective; excessively clouded; not securely attached; cracked or broken glass.

D) Crossover

PROCEDURES/SPECIFICATIONS:

An outside convex mirror shall give the seated driver a view of the front bumper and the area of roadway in front of the bus. The projected reflecting surface of this mirror shall be at least 40 square inches (7 1/8 inch diameter if a circle). (49 CFR 571.111)

Exception: If the seated driver of a forward control bus has a direct view of the front bumper and the area of roadway in front of the bus, a crossover mirror is optional.

REJECT VEHICLE IF:

Crossover mirror does not meet requirements; defective; excessively clouded; not adjustable; not securely attached; cracked or broken glass.

2) Interior

PROCEDURES/SPECIFICATIONS:

Clear view safety glass mirror, minimum 6 inches x 30 inches overall; framed with rounded and padded corners and edges. It shall afford good view of the bus interior and portions of the roadway to the rear.

Exception: All buses manufactured prior to September 1974 are exempt from padding on the mirror.

Exception: For buses that meet the definition of a Type I-A school bus, as defined in Section 441.40, the interior mirror may meet manufacturer's specifications.

REJECT VEHICLE IF:

Interior mirror does not meet requirements; defective; excessively clouded; not adjustable; not securely attached; cracked or broken glass.

b) PAINT REQUIREMENTS

PROCEDURES/SPECIFICATIONS:

The exterior of the body, excluding the required rails, shall be painted a uniform color, National School Bus Glossy Yellow. The front and rear bumpers, required rub rails and wheels shall be black. Additional rub rails may either be painted black or yellow. Grilles and hub caps may be a bright finish (e.g., chrome, anodized aluminum, etc.). Retaining rings may be gray or aluminum. Manufacturer's name or emblem may be any color but must not interfere with required lettering, numbering, or arrows. Roofs may be white. (Section 12-801 of the Illinois Vehicle Equipment Law)

For buses manufactured on or after May 2, 1994, each opening for a required emergency exit must be outlined around its outside perimeter with a minimum 1 inch (2.54 cm.) wide yellow retroreflective tape. This yellow retroreflective tape must be on the exterior surface of the bus. Required yellow retroreflective tape can be located on the rear bumper provided the space between the top of the bumper and bottom of the door is not adequate to accommodate the tape. (49 CFR 571.217)

Optional: A white roof may extend only to within 6 inches above the drip rails on the sides of the body. The front and rear roof caps shall remain National School Bus Glossy Yellow.

Optional: Black areas around flashers are permitted, but must not interfere with "SCHOOL BUS" lettering.

Optional: Reflectorized tape is permitted provided it reflects the same color that it is applied to and is not located on any bumper unless the bus was manufactured on or after May 2, 1994 (see paragraph above).

Exception: *Fenders on buses manufactured prior to January 1976 may be painted black.* (Section 12-801 of the Illinois Vehicle Equipment Law)

Exception: Hoods may be lusterless black or lusterless school bus yellow.

REJECT VEHICLE IF:

Paint does not meet color requirements or is in poor condition (i.e., faded, peeling or rusted).

Optional black area around flashers interferes with required lettering.

Required or optional reflectorized tape does not meet color requirements.

c) PROJECTIONS

1) Exterior

PROCEDURE/SPECIFICATIONS:

Entire rear and bumper area of bus must be nonhitchable.

AGENCY NOTE:

"Nonhitchable" is defined as the rear of the bus being designed and maintained to prevent or discourage riding or grasping rear of bus so as to "hitch" rides.

REJECT VEHICLE IF:

Projections do not comply with nonhitchable requirements.

2) Interior

PROCEDURES/SPECIFICATIONS:

Interior shall be free of all dangerous projections.

Optional equipment (e.g., video camera) that is located in the bulkhead area of the bus and not flush with the interior walls must meet the following requirements:

- 1) Must not interfere with occupants entering or exiting the bus.
- 2) Must not be located in driver's head impact zone.

3) Must not obstruct required lettering.

Additional projections (e.g., external speakers, air conditioners) located within 59 inches from the floor shall be padded to prevent injury. This includes inner lining of ceiling and walls. Installation of book racks is not permissible.

Exception: Buses purchased prior to September 1974 may be equipped with book racks. However, if book racks are present, they shall be above side windows and shall not extend forward of the front seat or across or above the emergency door. Racks must be free of projections likely to cause injury.

AGENCY NOTE: See RADIO NOISE for additional requirements.

REJECT VEHICLE IF:

Optional equipment in bulkhead does not meet requirements.

Remaining projections are not padded (e.g., external speakers). Book racks are present.

Flush mounted speakers are exempt from padding requirements.

For buses purchased prior to September 1974, book racks do not meet requirements.

d) RADIO NOISE

PROCEDURES/SPECIFICATIONS:

Radio/stereo speakers must be located at least four feet behind the rearmost position of the driver's seat. Any speaker already located in the prohibited area must be permanently deactivated.

REJECT VEHICLE IF:

After January 1, 1999, speakers are located in a prohibited area or are not deactivated.

AGENCY NOTE: Two-way communication radios are allowed.

e) REFLECTORS

1) Front

PROCEDURES/SPECIFICATIONS:

Two yellow rigid or sheet type (tape) front reflex reflectors shall be attached securely and as far forward as practicable. (Section 12-202 of the Illinois Vehicle Equipment Law) They shall be located between 15 and 60 inches above the roadway at either fender, cowl, or body and installed so as to mark the outer edge of the maximum width of the bus. No part of the required

reflecting material may be obscured by a lamp, mirror, bracket, or any other portion of the bus. No part of the required reflecting material may be more than 11.8 inches (300 mm) inboard of the outer edge of the nearest rub rail (12 inches on a bus with chassis manufactured in March 1977 or earlier). The reflector may be any shape (e.g., square, rectangle, circle, oval, etc.). A rigid type reflex reflector may be any size if permanently marked either DOT, SAE A, or SAE J 594; otherwise, it shall display at least seven square inches of reflecting material (about 3 inch diameter if a solid circle).

A sheet type (tape) reflex reflector may conform to the surface on which it is installed but its forward projected reflecting area shall be at least eight square inches.

REJECT VEHICLE IF:

Missing or damaged reflective material; not located or positioned as required.

2) Left Side

PROCEDURES/SPECIFICATIONS:

One amber at or near the front and one red at or near the rear. Mounted at a height not less than 15 inches and not more than 60 inches above the surface of the road. On sides of buses 20 feet or more in length, one amber as near center as practicable must also be provided. (Section 12-202 of the Illinois Vehicle Equipment Law) Minimum three inches in diameter.

REJECT VEHICLE IF:

Missing or damaged reflective material; not located or positioned as required.

3) Right Side

PROCEDURES/SPECIFICATIONS:

One amber at or near the front and one red at or near the rear. Mounted at a height not less than 15 inches and not more than 60 inches above the surface of the road. On sides of buses 20 feet or more in length, one amber as near center as practicable must also be provided. (Section 12-202 of the Illinois Vehicle Equipment Law) Minimum three inches in diameter.

REJECT VEHICLE IF:

Missing or damaged reflective material; not located or positioned as required.

4) Rear

Two red reflectors on rear body within 12 inches of lower right and lower left corners. (Section 12-202 of the Illinois Vehicle Equipment Law) Minimum three inches in diameter.

REJECT VEHICLE IF:

Missing or damaged reflective material; not located or positioned as required.

f) RUB RAILS

PROCEDURES/SPECIFICATIONS:

There shall be one rub rail located approximately at seat level which shall extend from the rear of the service entrance completely around the bus body without interruption, except at functioning doors or a rear engine compartment, to a point of curvature near the front of the body on the left side.

There shall be one rub rail on each side located approximately at the floor line which shall extend over the same longitudinal distance as the rub rail located at the seat level.

More than two rub rails may be installed on sides and rear of bus.

Rub rails of longitudinally corrugated or ribbed steel at least 3.9 inches (100 mm) wide shall be fixed on the outside of the bus.

Exceptions:

- 1) Rub rail need not extend across wheel housing.
- 2) Rub rail may terminate at the point of curvature at the right and left rear corners of the body.

REJECT VEHICLE IF:

Rub rails are missing; not firmly attached; incorrect color; or incorrect number of rails.

(Source: Amended at 25 Ill. Reg. 3283, effective February 20, 2001)

Section 441.APPENDIX I Seat Belt, Driver's through Steps, Entrance

a) SEAT BELT, DRIVER'S

PROCEDURES/SPECIFICATIONS:

Must be installed on driver's seat. (Section 12-807 of the Illinois Vehicle Equipment Law) Belt material, buckle, tongue, etc. shall remain above floor when not in use. If retractors are installed, they shall be the automatic locking type.

REJECT VEHICLE IF:

Driver's seat belt is dirty, frayed, torn, cracked or broken or if retractor or buckle does not operate properly.

b) SEAT,
DRIVER'S

PROCEDURES/SPECIFICATIONS:

The driver's seat shall be rigidly positioned and shall afford vertical, forward and backward adjustments of not less than 3.9 inches (100 mm) without the use of a tool or non-attached device. The shortest distance between the steering wheel and the back rest of the operator's seat shall be no less than 11 inches (280 mm).

Seat padding and covering shall be in good condition, free from holes and tears. Seat cushions shall be securely fastened to the seat frame.

REJECT VEHICLE IF:

Driver's seat is not securely anchored to floor; in poor condition; adjustment mechanism does not function properly.

c) SEATS,
PASSENGER

PROCEDURES/SPECIFICATIONS:

All seats shall have a minimum front to rear depth of 14 inches.

In determining seating capacity of a bus, individual seating width shall be 13 inches where 3-3 (three pupils on both sides of aisle) seating plan is used and 15 inches where 3-2 (three pupils on one side of aisle and two pupils on other side of aisle) plan is used. (49 CFR 571.222)

All seats shall be forward facing and shall be securely fastened to that part or parts of the body which support them. No jump or portable seats are allowed (does not include child restraint systems).

The forwardmost seat on the right side of the bus shall be located so as not to interfere with the driver's vision and not be farther forward than the rear of the driver's seat when adjusted to its rearmost position.

The seat spacing shall be no more than 24 inches, measured from the seating reference point to the seat back or guard barrier in front of the seat. (49 CFR 571.222)

A minimum of 36 inches of headroom for the sitting position above the top of the undepressed cushion line of all seats shall be provided. Measurement shall be made vertically not more

than 7 inches from the side wall at cushion height and at the front and rear center of cushion.

Seat backs of similar size shall be of the same width at the top and of the same height from the floor and shall slant at the same angle with the floor.

Buses manufactured after June 30, 1987, shall be equipped with 28 inch seat backs. (Section 12-807.1 of the Illinois Vehicle Equipment Law) Measure front of seat back from the top down to a point where the seat back meets the seat cushion. This measurement must be at least 28 inches.

All buses manufactured during and after September 1974 shall be equipped with energy absorbing padding on all exposed top and side rails. The side rails shall be padded in such a manner to retain the 12 inch aisle (15 inches at two inches below top of seat back for buses manufactured after June 30, 1987). On the rear of a seatback, the padding shall extend from the top of the seat back to the top level of the seat cushion. Seat padding and covering shall be of fire resistant material. Padding and covering shall be in good condition (i.e., free from holes and tears). Seat cushions shall be securely fastened to the seat frame.

Optional: The rearmost seats may be exempt from seatback padding requirement.

Exception: All buses manufactured prior to September 1974 are exempt from padding on top and side rails and seat back to cushion level.

A flip-up seat may be located only adjacent to any side emergency door. For buses manufactured on or after September 1, 1994, the flip-up seat must conform to the following:

- 1) The seat must be designed so that, when in the folded position, the seat cushion is flat against the seat back to prevent a child's limb from becoming lodged between the seat cushion and seat back.
- 2) The seat must be designed to discourage a child from standing on the seat cushion when in the folded position.
- 3) The working mechanism under the seat must be covered to eliminate any tripping hazard.
- 4) All sharp metal edges on the seat must be padded to prevent any snagging hazard.
- 5) No portion of the door latch mechanism can be obstructed by a seat.

- 6) There must be at least 11.7 inches (30 cm) measured from the door opening to the seat back in front. (49 CFR 571.217)

REJECT VEHICLE IF:

Passenger seats are not firmly attached to body; broken frame; cushions not firmly attached; padding and covering not fire resistant. Padding or covering is loose, in poor condition, or missing; seats are torn or have holes; minimum seat dimensions or seat spacing is not in compliance.

For buses manufactured after June 30, 1987, seat back height does not meet requirements.

d) STEERING SYSTEM

1) Exterior

A) King
Pins

PROCEDURES/SPECIFICATIONS:

Raise vehicle so as to unload kingpins (brakes should be applied to eliminate wheel bearing looseness). Either grasp wheel at top and bottom or use a bar for leverage. Attempt to rock wheel in and out. Check movement at extreme top or bottom of tire. If movement exists, place a dial indicator, tape measure, or a fixed device at the wheel and measure amount of movement.

Place leverage bar under tire. Raise bar to check for vertical movement between spindle and support axle.

REJECT VEHICLE IF:

Wheel bearing movement exceeds 1/4 inch; or kingpin movement exceeds:

<u>Wheel size</u>	<u>Max allowed</u>
16" or less	1/4"
16.1" to 18"	3/8"
over 18"	1/2"

B) Linkage

PROCEDURES/SPECIFICATIONS:

For buses with single "I" beam or tube type front axle, hoist bus under axle. For buses with twin "I" beam type front axles or with "A frame" control arms, each axle or arm must be hoisted independently so as to load the ball joints. Grasp front and rear

of tire and attempt to shake assembly right and left to determine linkage looseness. Measure movement of wheel.

Inspect for damage to or looseness in the following linkage components:

- i) Ball Joints
- ii) Cotter Pins
- iii) Drag Link
- iv) Idler Arm
- v) Pitman Arm
- vi) Steering Box
- vii) Tie Rod
- viii) Tie Rod Ends

REJECT VEHICLE IF:

Measurement is found to be in excess of:

<u>Rim Diameter</u>	<u>Maximum Allowable Movement</u>
16" or less	1/4"
17" and 18"	3/8"
over 18"	1/2"

Any linkage component is bent; welded; loose; insecurely mounted or missing.

C) Power
Steering

PROCEDURES/SPECIFICATIONS:

Manually and visually inspect:

- i) Belts
- ii) Cylinders
- iii) Fluid Level
- iv) Hoses
- v) Mounting Brackets
- vi) Power Assist
- vii) Pump

REJECT VEHICLE IF:

Steering components are:

- i) Loose, frayed, cracked, missing; incorrect belts
- ii) Loose and/or leaking
- iii) Low fluid level
- iv) Cracked, leaking, rubbed by moving parts
- v) Cracked, loose, or broken
- vi) No assist is evident

vii) Loose, leaking.

D) Toe-In/
Toe-Out

PROCEDURES/SPECIFICATIONS:

With wheels held in a straight ahead position, drive vehicle slowly over the approved drive-on side slip indicator.

Excessive toe-in or toe-out is a general indication that complete check should be made of all front wheel alignment factors (caster, camber, steering axis inclination).

REJECT VEHICLE IF:

More than 30 feet per mile on the approved side slip indicator.

E) Wheel
Bearings

PROCEDURES/SPECIFICATIONS:

With the front end of the vehicle lifted so as to load any ball joints, grasp the front tire top and bottom, rock it in and out. Record movement. To verify that any looseness detected is in the wheel bearing, notice the relative movement between the brake drum or disc and the backing plate or splash shield.

AGENCY NOTE: Wheel bearing play can be eliminated by applying service brakes.

REJECT VEHICLE IF:

Relative movement between drum and backing plate, measured at tire, is 1/4 inch or more.

2) Interior

A) Column

PROCEDURES/SPECIFICATIONS:

Inspect to determine that column support bracket is properly tightened and all bolts are present.

REJECT VEHICLE IF:

Column support bracket is not properly tightened or bolts are missing.

B) Lash

PROCEDURES/SPECIFICATIONS:

With road wheels in straight ahead position, turn steering wheel until a turning movement can be observed at the left road wheel. Slowly reverse steering wheel motion and measure lash.

REJECT VEHICLE IF:

Lash exceeds following acceptable limits:

Steering wheel maximum diameter (inches)	Acceptable lash (inches) measured at maximum circumference
16 or less	2
18	2 1/4
20	2 1/2
22	2 3/4

C) Shaft PROCEDURES/SPECIFICATIONS:

Grasp steering wheel with both hands and attempt to move shaft up and down.

REJECT VEHICLE IF:

Steering shaft moves up and down.

AGENCY NOTE: Steering shafts on International-Navistar vehicles will move up and down but must be within manufacturer's tolerances.

D) Steering Wheel PROCEDURES/SPECIFICATIONS:

Inspect steering wheel condition.

REJECT VEHICLE IF:

Steering wheel is damaged. Any spokes are missing or reinforcement ring is exposed.

E) Travel PROCEDURES/SPECIFICATIONS:

Turn steering wheel through a full right and left turn checking for binding, jamming and complete travel left and right.

REJECT VEHICLE IF:

Binding or jamming is present. Does not complete full turn from left to right. Tire rubs on fender or frame during turn.

e) STEPS,
ENTRANCE

PROCEDURES/SPECIFICATIONS:

Steps shall be enclosed and shall not protrude beyond side body line. Surface shall be of nonskid material with 1 1/2 to 3 inch white nosing as part of the nonskid material. Riser of upper step not more than 15 inches in height. When more than two steps

are used, risers must be approximately of equal height, except when floor is plywood over steel. (Increase by thickness of plywood.)

REJECT VEHICLE IF:

Steps or risers are not solid. Steps, risers or nonskid material covering is missing, loose, or not in good condition. White nosing is missing or in poor condition.

(Source: Amended at 22 Ill. Reg. 11889, effective June 30, 1998)

Section 441.APPENDIX J Stop Signal Arm Panel through Trash Container (optional)

a) STOP SIGNAL
ARM PANEL

PROCEDURES/SPECIFICATIONS:

A stop signal arm panel must be installed on the left side of the bus and may be operated either manually or mechanically. Decals may be used in lieu of painting.

Buses manufactured on or after September 1, 1992 must be equipped with an octagon-shaped semaphore which meet the requirements listed below under "Octagon."

Buses manufactured prior to September 1, 1992 may either be equipped with an octagon-shaped semaphore which meets the requirements listed below under "Octagon" or a hexagon shaped semaphore which meets the requirements listed below under "Hexagon."

Octagon - The arm shall be an octagon-shaped semaphore which measures at least 450 mm x 450 mm (17.72 inches x 17.72 inches) in diameter. The arm shall be red on both sides with a white border at least 12 mm (.47 inches) wide on both sides. The arm shall have the word "STOP" displayed in white uppercase letters on both sides. The letters shall be at least 150 mm (5.9 inches) in height and have a stroke width of at least 20 mm (.79 inches).

The octagon-shaped stop signal arm shall comply with either (a)(1) or (2) below:

- 1) The entire surface of both sides of the arm can be reflectorized to meet 49 CFR 571.131; or
- 2) Each side of the arm shall have at least two red lamps centered on the vertical centerline of the stop arm. One lamp shall be located at the extreme top of the arm and the other at its extreme bottom. The lamps shall light and flash alternately when stop arm is extended and likewise

turn off and stop flashing when arm is closed. (49 CFR 571.131) (See Section 441.Illustration A for examples.)

Hexagon - The arm shall be a hexagon shaped semaphore approximately 18 inches wide and 18 inches long and of 16 gauge metal. The stop arm signal shall have the "STOP" painted on both sides in white letters at least six inches high with a brush stroke approximately 7/8 inch wide. The word "STOP" shall be painted on a panel with red background of approximately 8 inches by 16 inches. Remaining area of stop arm blade is to be painted white with a band of white border at least 1/2 inch wide painted from front and rear on both sides as contrast. White portion of stop arm signal shall be reflectorized or shall have double-faced lamps with red lens approximately four inches in diameter located in the top and bottommost position of the blade. These lamps shall light and flash alternately when stop arm is extended and likewise turn off and stop flashing when arm is closed. (Section 12-803 of the Illinois Vehicle Equipment Law) (See Section 441.Illustration A for examples.)

Optional: Strobe lamps are acceptable on stop signal arm panels.

Optional: Additional stop signal arm panels must be located on the left side of the bus. Additional panels must operate in conjunction with the required panel and meet all stop signal arm panel requirements except as follows. The additional panel must not contain any lights, marking, or reflective material on the front side of the panel. The additional panel must be located in the rear half of the bus adjacent to the rearmost window.

REJECT VEHICLE IF:

Stop signal arm panel is in poor condition (i.e., faded, peeling, or rusted); lights do not operate properly (if installed); is not securely attached; is not operating properly; does not meet requirements; is missing.

b) STORAGE
COMPARTMENT
(optional)

PROCEDURES/SPECIFICATIONS:

Covered, fire-resistant container securely fastened of adequate strength and capacity for tire chains and tools for minor emergency repairs.

REJECT VEHICLE IF:

If installed, does not meet requirements.

c) SUN VISOR

PROCEDURES/SPECIFICATIONS:

Interior, adjustable, transparent, not less than 6 inches by 30 inches, installed above windshield. Must not interfere with view of interior rear view mirror.

Exemption: Buses purchased prior to August 1967 are exempt from having a transparent sun shield.

Exception: For school buses that meet the definition of a Type I-A school bus, as defined in Section 441.40, the sun visor may meet manufacturer's standards.

REJECT VEHICLE IF:

Sun visor does not meet requirements.

d) SUSPENSION

1) Shocks

PROCEDURES/SPECIFICATIONS:

Bus shall be equipped with front and rear double-acting shock absorbers compatible with manufacturer's rated axle capacity.

With vehicle on a hoist or jacked up, visually inspect shock absorbers for excessive leakage, looseness of mounting, brackets, and bolts.

Physically grab upper and lower portion of shock inspecting for looseness in rubber bushing, mounting brackets or bolts.

REJECT VEHICLE IF:

Shocks are missing, broken, or have severe leakage (not slight dampness) occurs. Mounting bolts or mounts are broken or loose, or rubber bushing is partially or completely missing.

2) Springs

PROCEDURES/SPECIFICATIONS:

A) Coil

Visually inspect:

- i) Spring
- ii) Control arms
- iii) Torque arms (rear)

REJECT VEHICLE IF:

Coil is missing, disconnected, broken, loose bushings, welded or damaged.

B) Leaf

PROCEDURES/SPECIFICATIONS:

With use of a pry bar and using frame as a pivot, attempt to pry front and rear spring attachments and check for movement. Front of vehicle must be jacked up on chassis for checking front suspension. Visually inspect:

- i) Springs
- ii) Shackles
- iii) Hangers
- iv) U-bolts
- v) Center bolts
- vi) Bushings or pivot

REJECT VEHICLE IF:

Springs are missing or broken. Shackles or "U" bolts worn or loose. Center bolt in springs sheared or broken. Steering stops allow tire to rub on frame or metal. Any leaves are cracked or missing. Any shackle, shackle pins, hangers, or "U" bolts are worn, loose, or missing.

C) Torsion Bar
(Stabilizer Bar)

PROCEDURES/SPECIFICATIONS:

Visually inspect:

- i) Torsion bar
- ii) Mounting brackets
- iii) Control arms
- iv) Torque arms (if applicable - rear)
- v) Stabilizer bar(s) (if applicable)

REJECT VEHICLE IF:

Torsion bar is missing, disconnected, broken, loose, welded, damaged.

e) TOW HOOKS
(optional)

1) Front

PROCEDURES/SPECIFICATIONS:

A front tow hook must not extend beyond the front of the front bumper. Each front tow hook not fastened securely to the chassis frame shall be connected to the frame by suitable braces.

REJECT VEHICLE IF:

Tow hook(s) extend beyond bumper; not securely attached.

2) Rear

PROCEDURES/SPECIFICATIONS:

Any tow hook(s) installed on the rear shall be attached or braced to the chassis frame or to an equivalent structural member of an integral type bus. A tow hook must not extend beyond the rear face of the rear bumper.

REJECT VEHICLE IF:

Tow hook(s) extend beyond bumper; not securely attached.

f) TRASH CONTAINER
(optional)

PROCEDURES/SPECIFICATIONS:

A trash container may be present. If present, it must be securely stored in the vehicle and must not obstruct an aisle.

REJECT VEHICLE IF:

Optional trash container does not meet requirements.

(Source: Amended at 24 Ill. Reg. 12099, effective July 31, 2000)

Section 441.APPENDIX K Undercoating through Windshield Wipers

a) UNDERCOATING

PROCEDURES/SPECIFICATIONS:

Fire resistant undercoating material applied to entire underside of body, front fenders, wheel wells, floor members, and side panels below floor level. Non-metallic parts need not be coated.

REJECT VEHICLE IF:

Undercoating does not meet requirements.

b) VENTILATION

PROCEDURES/SPECIFICATIONS:

Body must be equipped with ventilating system capable of supplying proper quantity of air under operating conditions.

REJECT VEHICLE IF:

Air is obstructed; not securely fastened; not covered.

c) WARNING
DEVICES

PROCEDURES/SPECIFICATIONS:

Either three red cloth flags not less than 12 inches square and three red reflectors minimum of 3 inches in diameter or three bi-

directional emergency triangles that conform to 49 CFR 571.125. (Section 12-702 of the Illinois Vehicle Equipment Law) Kit shall be securely stored.

REJECT VEHICLE IF:

Required warning devices are not present or are in poor condition.

d) WHEELS

1) Housings

PROCEDURES/SPECIFICATIONS:

Full open type attached to floor sheet to prevent water, fumes or dust entering the body. Inside height should not exceed 10 inches above floor line. Housings shall allow for unimpeded wheel and tire service or removal. Housing shall provide clearance for installation and use of tire chains on the dual or single tires installed on the rear wheels.

Inspect tire and road wheel assemblies.

REJECT VEHICLE IF:

Wheel housings do not meet clearance requirement; wheel housings are not firmly secured; holes are present.

A tire or wheel is rubbing against any portion of the suspension, chassis, or body.

2) Rim

PROCEDURES/SPECIFICATIONS:

Inspect all wheel and rim bolts, nuts, studs, lugs, locking rings, etc. Each cover, cap, or decorative ring that obscures any of these items must be removed prior to the inspection.

Inspect for visible wheel damage.

REJECT VEHICLE IF:

Any wheel or rim securing device such as a nut, bolt, stud, lug, ring, or other type securing device is loose, missing, or cracked.

Wheel locating hole(s) are elongated, oversized, or "wallowed out." Any part of a wheel or rim is cracked, repaired by welding or rewelding, or damaged so as to cause unsafe operation of the vehicle.

3) Tires

PROCEDURES/SPECIFICATIONS:

Inspect tire for proper inflation (i.e., flat tire).

A regrooved, retreaded, or recapped tire shall not be on the front steering axle.

A tire with restricted use marking is prohibited. (e.g., "NHS" or "SL" following size marking, "Off Highway," "Farm Use," "Racing Only," etc.)

No school bus shall be equipped with any tire which has been so worn that tread configuration is absent on any part of the tire in contact with the road surface.

Inspect for tread wear:

- A) Check for the presence of tread wear indicators.
- B) For tires without tread wear indicators, use tread depth gauge to measure groove depth.

Steering (Front) and Drive (Rear) Axles: Measure groove depth at any point on a major tread groove.

- C) For tires without tread wear indicators and with noncircumferential grooves, or "spaces," between the tread elements (as in snow, mud, lug knob, or traction treads):

Steering (Front) and Drive (Rear) Axles: Measure in a major groove at a point halfway between the center of the tire and the outside of the tread at any point on a major tread groove.

- D) Inspect tire for bald, partially bald, cupped, dished or unevenly worn areas.
- E) The measurements shall not be made where the tie bars, humps, or fillets are located.

AGENCY NOTE: "Bald" means without a groove.

Inspect for visible cord damage and exposure of ply cords in sidewalls and treads, including belting material cords.

Inspect for evidence of tread or sidewall separation.

Inspect for regrooved or recut treads.

AGENCY NOTE: 49 CFR 369 requires tires marked "REGROOVABLE" to have sufficient tread rubber that, after regrooving, cord material below the grooves shall have a protective covering of tread material at least 3/32 inch thick.

Inspect tires for legible markings showing size designation and carcass construction.

AGENCY NOTE: "R" in size designation shows radial construction. More plies at tread than sidewall shows belted construction. Same number of plies at tread and sidewall, without a belted or radial indication, shows plain bias construction.

Tires on same axle must be of same construction.

Inspect tires for size designation and for matched construction.

AGENCY NOTE: "Construction" refers to bias, bias belted, or radial arrangement of ply cords in the tire carcass.

Inspect each single dual tire assembly.

A mixture of regular and mud-and-snow treads must be the same on both sides of axle.

When radial and conventional (i.e., bias) tires are both used on a vehicle, one of the following two requirements shall be met:

- A) On vehicles with one single wheel axle and one or more dual wheel axles, radial tires shall be used on the steering (i.e., front) axle only.
- B) On vehicles having two single wheel axles, radial tires shall be used on the rear axle only.

A tube built only for bias tire shall not be installed in a radial tire. Red color shall not be added to stem of a "bias" tube. (Valve stem of tube for radial tire is either marked "radial" or has red ring or is painted red.) A "radial" tube and flap may be used in a bias tire.

Inspect valve stems.

REJECT VEHICLE IF:

Improper inflation (flat tire).

Regrooved, retreaded or recapped tire is located on front steering axle.

Restricted marking is present.

Any part of tire which is in contact with road surface is absent of tread configuration.

- A) Tread wear indicators contact road at any point on a major tread groove.
- B) On steering (front) axle: Tread groove depth is less than 4/32 inch when measured at any point on a major tread groove.

On drive (rear) axle: Tread groove depth is less than 2/32 inch when measured at any point on a major tread groove.
- C) On steering axle: Tread groove depth is less than 4/32 inch when measured in a major groove at a point halfway between the center of the tire and the outside of the tread at any point on a major tread groove.

On drive axle: Tread groove depth is less than 2/32 inch when measured in a major groove at a point halfway between the center of the tire and the outside of the tread at any point on a major tread groove.
- D) The tire has bald, partially bald, cupped, dished or unevenly worn areas.

A broken or cut cord can be seen. Rubber is worn, cracked, cut or otherwise deteriorated or damaged so that a cord can be seen - either when the tire is not touched or when the edges of the crack, cut or damage are parted or lifted by hand.

Tire has bump, bulge, knot or other evidence of partial carcass failure, air seepage, or loss of adhesion between carcass and tread or sidewall.

Tread has been regrooved or recut on a tire that does not have the word "REGROOVABLE" molded on or into both sides of the tire.

A tire on a road wheel does not exhibit a legible size marking and a legible construction marking.

Tires on the same axle are not of same construction.

A tire exceeds the diameter (not width) of its mate by 1/2 inch (1/4 inch radius) or more; or one tire touches its mate.

A mixture of regular and mud-and-snow treads are not the same on both sides of the axle.

Requirements for using both radial and conventional tires on a vehicle are not met.

A tube built only for bias tire but installed in a radial tire.

A valve stem leaks; is cracked; is either damaged or positioned so as to hamper pressure checking or inflation; shows evidence of wear because of misalignment.

e) WINDOWS

PROCEDURES/SPECIFICATIONS:

All applicable provisions of 49 CFR 571.205 apply to the optional laminated safety glass and also to any plastic material(s) used in a multiple glazed unit.

Glazing shall be marked as follows pursuant to 49 CFR 571.205:

- A) Windshield - "AS 1" Glass
- B) Driver's Window - "AS 1" Glass or "AS 2" Glass
- C) Driver's door - "AS 1" Glass or "AS 2" Glass
- D) All other locations - "AS 1" Glass, "AS 2" Glass, or "AS 3" Glass.

REJECT VEHICLE IF:

Windows do not meet requirements.

1) Emergency
(Also see
EMERGENCY
EXITS)

PROCEDURES/SPECIFICATIONS:

When the emergency door is located on the left side, a rear emergency window shall be provided. Minimum dimensions are 16 inches high and 48 inches wide. Designed to be opened from the inside or the outside. Hinged on top, designed and operated to insure against accidental closing in an emergency. Inside handle shall provide for quick release. Outside handle shall be nondetachable and nonhitchable. When locked or not fully latched, window shall actuate alarm audible and visible to driver. No cutoff switch allowed.

Optional emergency windows are allowed. They must be labeled "Emergency Exit" in letters at least two inches high, of a color that contrasts with its background, located at the top of or directly above the window on the inside surface of the bus. Optional emergency windows must be equipped with an audible alarm activated when window is locked or not fully latched.

REJECT VEHICLE IF:

Operating mechanisms do not function. Alarm does not function. Glass is cracked or broken (see EMERGENCY EXIT - Alarms and Locks).

2) Rear

PROCEDURES/SPECIFICATIONS:

Glazed panels, or windows, (except rear emergency window) shall be of fixed type. Any authorized or required signs, letters or numerals displayed on the window in the rear of the bus shall be located so as not to obstruct the driver's view.

REJECT VEHICLE IF:

Glass is cracked or broken. Visibility through rear windows is obstructed.

3) Side

PROCEDURES/SPECIFICATIONS:

Each side window shall provide unobstructed emergency opening at least 9 inches high and 22 inches wide, obtained either by lowering window or by use of knock-out type split sash. A "Stop Line" is required six inches from top of window on all windows. Safety glass with exposed edges shall be banded.

Window latches must be in proper working order.

Exception: The requirements of this subsection do not apply to a side window or glazed panel installed forward of a front passenger seat, and are optional for a side window installed either beside a rear passenger seat, or in a side emergency exit.

Note: For information regarding optional route identification markings, see LETTERING.

REJECT VEHICLE IF:

Side windows do not meet emergency opening requirements. Window does not open easily. Glass is cracked or broken. Stop lines are missing.

Window latches do not operate properly.

4) Windshield

PROCEDURES/SPECIFICATIONS:

Shall be installed between front corner posts and designed not to obstruct driver's view. (Section 12-501 of the Illinois Vehicle Equipment Law) Windshield shall be slanted to reduce glare.

Tinted safety glass shall only be allowed six inches below top of windshield.

REJECT VEHICLE IF:

Windshield is not firmly sealed or attached. Glass is broken, cracked, or discolored (not including allowed tint). "Star chip" is present which measures more than one inch in diameter.

f) WINDSHIELD
WASHER

PROCEDURES/SPECIFICATIONS:

Windshield washer shall effectively clean entire area covered by both wipers.

Exception: All buses purchased prior to September 1974 are exempt. However, if bus is so equipped, washer must be in good operating condition.

REJECT VEHICLE IF:

Windshield washer does not effectively clean entire area or does not operate properly.

g) WINDSHIELD
WIPERS

PROCEDURES/SPECIFICATIONS:

Two automatic, variable speed wipers with nonglare arms and blades. Need not be individually powered.

REJECT VEHICLE IF:

Windshield wipers do not cover entire cleaning area. Blades are damaged, torn, hardened, or rubber wiping element has broken down. Wiper fails to park properly when shut off.

(Source: Amended at 22 Ill. Reg. 11889, effective June 30, 1998)

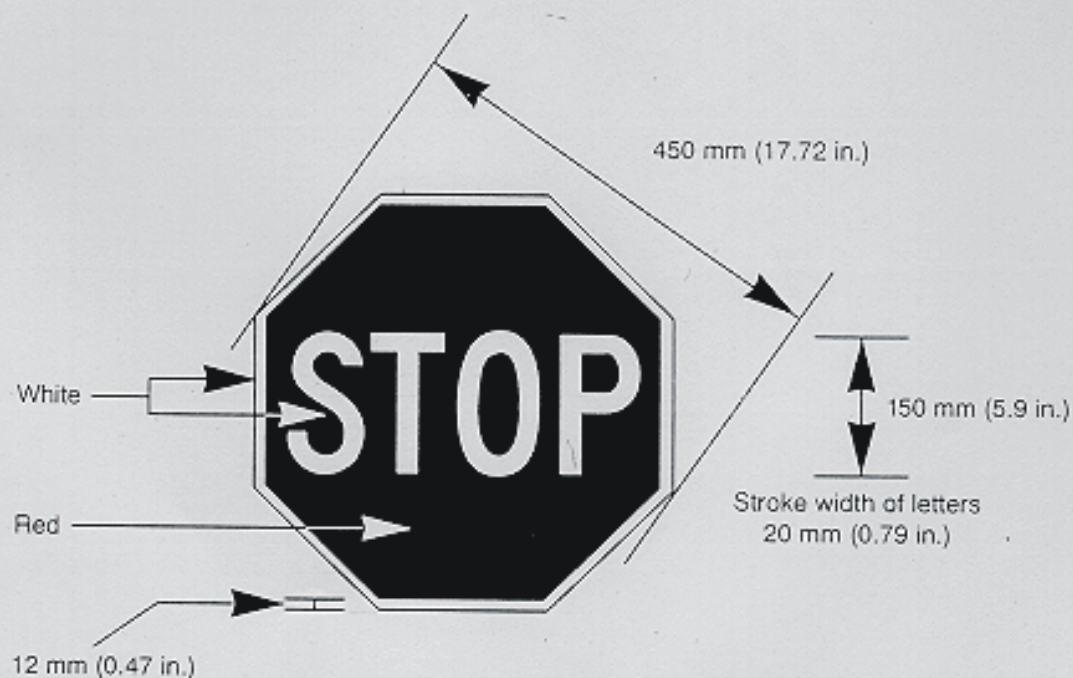
Section 441.ILLUSTRATION A Stop Arm Panels

Octagon Shaped Semaphore (see Section 441.APPENDIX J(a))

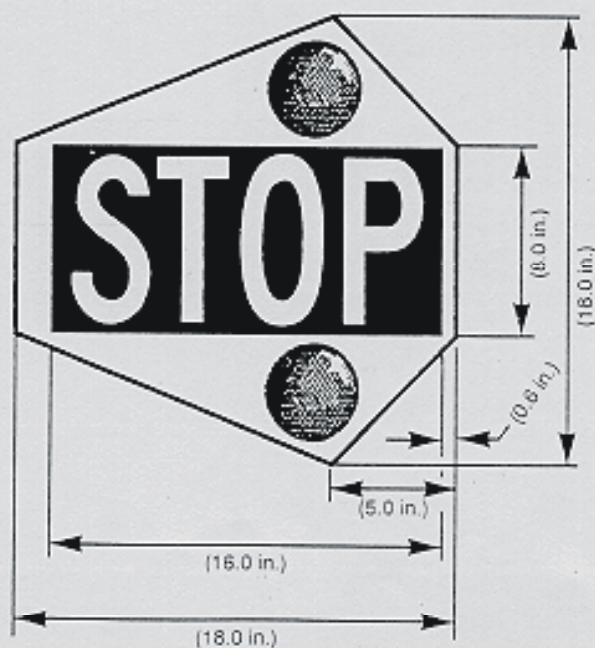
Hexagon Shaped Semaphore (see Section 441.APPENDIX J(a))

ILLUSTRATION A - STOP SIGNAL ARM PANELS

Octagon Shaped Semaphore (see Chapter 3 – Vehicle Component #47)



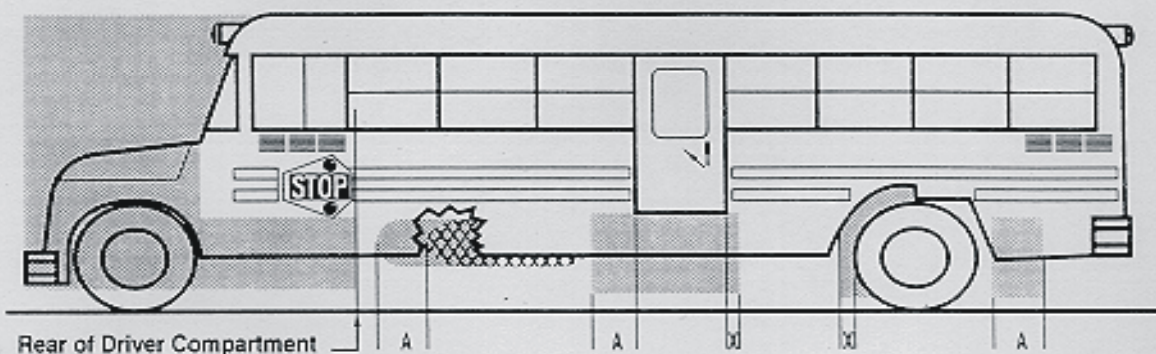
Hexagon Shaped Semaphore (see Chapter 3 – Vehicle Component #47)



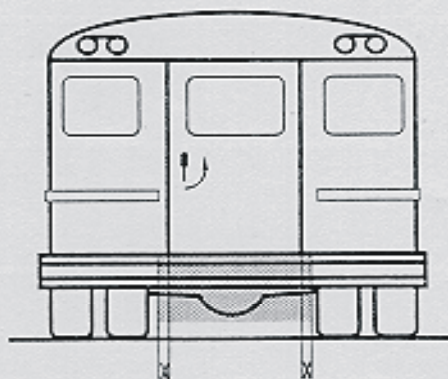
Section 441. ILLUSTRATION B Exhaust Guidelines

Illinois School Bus Inspection Manual

ILLUSTRATION B – EXHAUST GUIDELINES

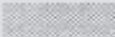



NOT TO SCALE




Distance A = 1 meter (39 3/8")

Distance X = 150 millimeters (5 7/8")

 Prohibited Zone

 Ventilating Air Intake
(anywhere on side)

 Fuel Tank

Heat shield between tank and discharge
eliminates prohibited zone at tank.

Section 441.ILLUSTRATION C Brake Inspection Report

PART I • Inspection Procedures for Type I School Buses

ILLUSTRATION C – BRAKE INSPECTION REPORT



**Illinois Department
of Transportation**
Division of Traffic Safety
3215 Executive Park Drive
P.O. Box 19212
Springfield, Illinois 62794-9212

School Bus Brake Inspection Report

District or Contractor:

Name _____

Address _____

City/State _____ Zip _____ Telephone (____) _____

School Bus Unit Number _____ Chassis Make _____

Chassis Year _____ Chassis V.I.N. _____

Illinois law requires all school buses to be safety inspected at least once every six months or 10,000 miles, whichever occurs first. In addition, the Illinois Department of Transportation requires that a visual brake inspection be performed on every school bus operated in Illinois at least once a year or every 10,000 miles, whichever occurs first.

A completed School Bus Brake Inspection Report must be presented to the Certified Safety Tester each time a school bus is taken to an Official Testing Station for a safety inspection.

I attest that the entire brake system on the school bus listed above was visually inspected and found to be operating in accordance with the manufacturer's specifications or was repaired to perform in accordance with the manufacturer's specifications. The visual inspection of the brake system was performed on _____ by a qualified

mechanic employed by _____ The mileage

on this school bus was _____ when the visual brake inspection was performed.

(name of authorized school district official or contractor)

Please print or type

(date)

(signature of authorized school district official or contractor)

(title)

TS 2258 (3/94)

Section 441.ILLUSTRATION D Propane Decal

Illinois School Bus Inspection Manual

ILLUSTRATION D – PROPANE DECAL



Section 441.ILLUSTRATION E Driver's Pre-Trip Inspection Requirements and Sample Form (Repealed)

(Source: Repealed at 22 Ill. Reg. 11889, effective June 30, 1998)

Section 441.ILLUSTRATION F School Bus Emergency Exits

School buses manufactured on or after September 1, 1994 may be equipped with additional exits. These additional exit requirements apply to school buses with an incomplete vehicle date of on or after September 1, 1994. The incomplete vehicle date can be found on the bus' federal certification label.

Each school bus will first be equipped with either a rear emergency door or a side emergency door and rear emergency window as stated in paragraphs (a) and (b).

The following Tables specify the required number of exits depending on the vehicle's passenger capacity and emergency exit configuration.

- a) One rear emergency door that opens outward and is hinged on the right side (either side in the case of a bus with a GVWR of 10,000 pounds or less), and the additional exits, if any, specified by Table 1.

TABLE 1

Seating Capacity	Additional Exits Required
1-45	None.
46-62	1 left side exit door or 2 exit windows.
63-70	1 left side exit door or 2 exit windows, and 1 roof exit.
71 and above	1 left side exit door or 2 exit windows, and 1 roof exit, and any combination of door, roof, or windows such that the total capacity credit specified in Table 3 for these exits, plus 70, is greater than the seating capacity of the bus.

- b) One emergency door on the vehicle's left side that is hinged on its forward side and a pushout rear window that provides a minimum opening clearance 16 inches high and 48 inches wide, and the additional exits, if any, specified by Table 2.

TABLE 2

Seating Capacity	Additional Exits Required
1-57	None.
58-74	1 right side exit door or 2 exit windows, and 1 roof exit.
75-82	1 right side exit door or 2 exit windows, and 1 roof exit.
83 and above	1 right side exit door or 2 exit windows, and 1 roof exit, and any combination of door, roof, or windows such that the total capacity credit specified in Table 3 for these exits, plus 82, is greater than the seating capacity of the bus.

TABLE 3

Exit Type	Capacity Credit
Side Door	16
Window	8
Roof Exit	8

AGENCY NOTE: In order to explain the use of Table 3, the following example is provided:

The owner/operator of a 75 passenger bus can choose either a side door, window or roof exit to meet the additional exit requirements for buses with a seating capacity of 71 and above. If the owner/operator chooses a side door, he/she would add 16 and 70 for a total sum of 86. As long as the total sum is greater than the original passenger capacity of the bus, the exit choice is acceptable.

(Source: Added at 22 Ill. Reg. 11889, effective June 30, 1998)

TITLE 92: TRANSPORTATION
CHAPTER I: DEPARTMENT OF TRANSPORTATION
SUBCHAPTER e TRAFFIC SAFETY (EXCEPT HAZARDOUS MATERIALS)

PART 442
MINIMUM SAFETY STANDARDS FOR CONSTRUCTION
OF TYPE II SCHOOL BUSES

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APPENDIX E Octagon Shaped Stop Signal Arm

AUTHORITY: Implementing Article VIII of Chapter 12 and authorized by Section 12-812 of the Illinois Vehicle Code [625 ILCS 5/Ch. 12, Art. VIII].

SOURCE: Adopted at 2 Ill. Reg. 45, P. 115, effective November 10, 1978; codified at 8 Ill. Reg. 15002; amended at 8 Ill. Reg. 15505, effective August 10, 1984; amended 12 Ill. Reg. 4220, effective February 9, 1988; amended at 16 Ill. Reg. 1685, effective January 14, 1992; amended at 17 Ill. Reg. 3540, effective March 2, 1993; amended at 18 Ill. Reg. 14789, effective September 20, 1994; amended at 26 Ill. Reg. 3255, effective February 19, 2002.

SUBPART A: GENERAL**Section 442.110 Scope**

This Part is intended to provide minimum standards for constructing and equipping new Type II school buses manufactured for use in Illinois. This Part assumes compliance with applicable Federal Motor Vehicle Safety Standards (FMVSS) (49 CFR 571), and the Society of Automotive Engineer Standards (SAE), and implements applicable Sections of the Illinois Vehicle Code (the Code) [625 ILCS 5/Ch. 12, Art. VIII]. In addition, this Part sets forth certain other minimum standards established by the Department, and authorized by Section 12-812 of the Code, to govern aspects not governed by the FMVSS, SAE Standards, or the Code. At the request of school bus owners and operators, a few of the requirements in this Part relate to durability and maintenance of school buses rather than safety.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.120 Definitions

"ANSI" means the American National Standards Institute (11 West 42nd Street, New York, N.Y. 10036).

"Body" means the portion of a bus that encloses the occupant and cargo spaces and separates those spaces from the chassis frame, engine compartment, driveline, and other "chassis" components, except certain chassis controls used by the driver.

"Body-on-Chassis" means a completed vehicle consisting of a passenger seating body mounted on a truck type chassis (or other separate chassis) so that the body and chassis are separate entities, although one may reinforce or brace the other.

"Code (the Code)" means the Illinois Vehicle Code [625 ILCS 5].

"Driver" *means "Every person who drives or is in actual physical control of a vehicle".*(Section 1-116 of the Code)

"Empty Weight" means the "unloaded vehicle weight"; i.e., the weight of a vehicle with maximum capacity of all fluids necessary for operation of the vehicle but without cargo or occupant (49 CFR 571.3), plus 350 pounds allowance for driver and equipment.

"FMVSS" means the rules and standards set forth in 49 CFR 571 and known as the "Federal Motor Vehicle Safety Standards".

"Forward Control" means a configuration in which more than half of the engine length is rearward of the foremost point of the windshield base and the steering wheel hub is in the forward quarter of the vehicle length (49 CFR 571.3) - includes mid-engine and rear-engine ("pusher") buses.

"Gross Vehicle Weight Rating or (GVWR)" means the value specified by the manufacturer as the loaded weight of the school bus. (Section 12-800 of the Code)

"Incomplete Vehicle" means an assemblage consisting, at a minimum, of frame and chassis structure, power train, steering system, suspension system, and braking system, to the extent that those systems are to be part of the completed vehicle, that requires further manufacturing operations (other than the addition of readily attachable components such as mirrors or tire and rim assemblies or minor finishing operations, such as painting) to become a completed school bus for use in Illinois. (Based on 49 CFR 568.3.)

"Integral Type" bus means a completed vehicle either without separate body and chassis or with body and chassis joined into one unit.

"m", following a numeral, means either "meter" or "meters".

"mm", following a numeral, means either "millimeter" or "millimeters".

"Manufacturer" (unless otherwise indicated at the point of use) means the person or organization whose name follows "MANUFACTURED BY" or "MFD BY" on the label required in Section 442.130(b).

"Multiple Glazed Unit" means two or more sheets of safety glazing material separated by air space(s) and assembled in a common mounting (ANSI Z26.1-1996, no later amendments or editions included).

"Passenger" means every bus occupant who is not the driver.

"SAE" means the Society of Automotive Engineers (400 Commonwealth Drive, Warrendale, Pennsylvania 15096).

"School Bus" means:

Every motor vehicle, except as provided in this definition, owned or operated by or for any of the following entities for the transportation of persons regularly enrolled as students in grade 12 or below in connection with any activity of such entity:

*Any public or private primary or secondary school;
Any primary or secondary school operated by a religious institution; or*

Any public, private or religious nursery school.

This definition shall not include the following:

A bus operated by a public utility, municipal corporation or common carrier authorized to conduct local or interurban transportation of passengers when such bus is not traveling a specific school bus route but is:

On a regularly scheduled route for the transportation of other fare paying passengers;

Furnishing charter service for the transportation of groups on field trips or other special trips or in connection with other special events; or

Being used for shuttle service between attendance centers or other educational facilities.

A motor vehicle of the first division.

A motor vehicle designed for the transportation of not less than 7 nor more than 16 persons that is operated by or for a public or private primary or secondary school, including any primary or secondary school operated by a religious institution, for the purpose of transporting not more than 15 students to and from interscholastic athletic or other interscholastic or school sponsored activities. (Section 1-182 of the Code)

“SI” means “Système International d’Unités” (International System of Units); officially abbreviated SI in all languages; the “modernized metric system” defined in ANSI IEEE-ASTM-SI-10-1997.

The symbol “ following a numeral means either “inch” or “inches”.

“Type I School Bus” means *a school bus with a gross vehicle weight rating of more than 10,000 pounds. (Section 12-800 of the Code)*

“Type I-A School Bus” means a term commonly used by school bus manufacturers to classify a certain type of school bus that is a conversion or body constructed upon a van-type or cutaway front-section vehicle with a left side driver’s door, designed for carrying more than 10 persons. The Type I-A school bus has a Gross Vehicle Weight Rating (GVWR) of more than 10,000 pounds.

“Type II School Bus” means *a school bus with a gross vehicle weight rating of 10,000 pounds or less. (Section 12-800 of the Code)*

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.130 Incorporation by Reference and Certification

- a) Each school bus must conform to the applicable provisions of the Federal Motor Vehicle Safety Standards (FMVSS) (49 CFR 571.100 through 571.304). Those applicable provisions of the FMVSS are incorporated by reference as that subpart of the FMVSS that was in effect on October 1, 2000. No later amendments to or editions of 49 CFR 571.100 through 571.304 are incorporated.
- b) Federal Standards: The manufacturer, and all incomplete vehicle and intermediate manufacturers, shall comply with the applicable provisions of Part 567 "Certification", and Part 568 "Vehicles Manufactured in Two or More Stages", in 49 CFR 567 and 568, including the permanent affixing of a label in conformance with the above mentioned FMVSS. This label constitutes the manufacturer's certification to all persons and organizations that the bus conforms to all applicable provisions of the FMVSS.
- c) State Standards: The manufacturer must comply with all provisions of this Part in effect on the first day of the month/year that the vehicle was manufactured.
- d) Each school bus must conform to the applicable standards of the Society of Automotive Engineers Handbook (SAE) (Volume 2 Sections 15-26). Those applicable provisions of the SAE standards are incorporated by reference as of the 1998 edition date. No later amendments to or editions of the SAE standards are incorporated.
- e) Copies of the above materials incorporated by reference are available for inspection at the Department's Commercial Vehicle Safety Section, 3215 Executive Park Drive, Springfield, Illinois 62703.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

SUBPART B: CONSTRUCTION OF BODY

Section 442.205 Aisle

- a) Minimum clearance of all aisles, including the aisle (or passageway) leading to an emergency door in the rear, shall be 12 inches.
- b) A dedicated aisle which conforms to 49 CFR 571.217 may be adjacent to any side emergency door.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.210 Body Structure and Mounting

- a) See applicable provisions of the FMVSS for requirements (49 CFR 571.100 through 571.304).
- b) Insulating material shall be placed at all mounting points between the body and chassis frame. This material shall be at least 5 mm (.2") thick, may have the quality of the sidewall of an automobile tire, and shall be so secured that it will not move, vibrate, or "crawl" out of place during normal operations.
- c) The body front shall be attached and sealed to the chassis cowl so as to prevent the entry of water, dust, or fumes through the joint between the chassis cowl and the body.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.213 Bumper, Rear

- a) The entire rear bumper must be of metal construction unless an energy absorbing bumper is used.
- b) The rear bumper must meet chassis or body manufacturer's standards.
- c) The rear bumper shall be shielded between the body and the bumper to prevent hitching or "riding on."

AGENCY NOTE: See Section 442.420 for front bumper requirements.

(Source: Added at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.214 Capacity, Passenger

- a) *The vehicle maximum passenger capacity recommended by the manufacturer of the bus shall be based upon a provision for 13 inches of seating space for each passenger, exclusive of the driver.* (Section 12-802 of the Code) Examples: A seat 990 mm (39") in width provides 3 passenger spaces; a seat 985 mm (38.8") in width provides 2 passenger spaces; a device resembling a seat but less than 330 mm (13") in width would not provide a passenger space.
- b) Neither a space not conforming to the FMVSS 222 nor the driver's space shall be counted as a passenger space. However, any space used for transporting an orthopedically challenged passenger shall be counted as a passenger space when computing passenger capacity to be displayed on the exterior of the bus as required in Section 442.250(g). (See 92 Ill. Adm. Code 444, Minimum Safety Standards for Construction of School Buses used in Special Education Transportation.)

(Source: Added at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.215 Ceiling and Side Walls

- a) The ceiling and side walls shall be thermally insulated with a fire-resistant material approved by the Underwriter's Laboratories, Inc., which shall also adequately reduce the noise level and vibrations.
- b) The interior of the bus shall be free of all unnecessary projections likely to cause injury. Additional projections (e.g., external speakers, air conditioners) located within 59 inches from the floor shall be padded to prevent injury. This includes inner lining of ceiling and walls. Installation of book racks is not permissible. Interior paneling is required on the ceiling and walls. Paneling shall be of steel or other suitable material of equivalent strength and durability, applied in such a manner as to present a clean, smooth and safe interior. Exposed edges of lapped joints shall be beaded, flanged or otherwise treated and connected to reduce the likelihood of injury from exposed edges.
- c) Interior height shall be a minimum of 60 inches, measured from the floor to ceiling at any point on the longitudinal center line from the front vertical bow to the rear vertical bow.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.218 Crossing Control Arm

- a) Must meet or exceed SAE J1133.
- b) Must be capable of full operation between, and including, the temperatures -40 degrees F and 160 degrees F.
- c) The arm, when activated, must extend a minimum of five feet from the front face of the bumper.
- d) The arm must be mounted on the far right side (entry side) of the front bumper.
- e) Appropriate brackets shall be used to attach the arm to the front bumper for proper operation and storage.
- f) All component parts must meet or exceed any applicable FMVSS in effect at the time of manufacture.
- g) The arm must extend at the same time the stop arm panel extends. An independent "on/off" switch is prohibited.

- h) If the driver can stop the arm from extending with the use of an optional override switch, the arm sequence must automatically reset once the service door is closed.
- i) Red lights and/or red reflectors are prohibited.

(Source: Added at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.220 Defrosters

Defrosting equipment shall be installed so as to help keep the window to the left of the driver and the glass in the service door clear of fog or frost. This defrosting equipment shall conform to those FMVSS 103 (49 CFR 571.103) performance requirements that are applicable to school bus windshields.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.225 Doors (Repealed)

(Source: Repealed at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.230 Emergency Exits and Door Alarms

- a) Each emergency exit shall be equipped with an interior opening device which may be quickly released but which is designed to offer protection against accidental release. Each exterior release handle must be nonhitchable.

AGENCY NOTE: "Nonhitchable" is defined as the rear of the bus being designed and maintained to prevent or discourage riding or grasping the rear of the bus so as to "hitch" rides.

- b) All emergency exits shall conform to the applicable requirements of the FMVSS 217 (49 CFR 571.217).
 - 1) Each opening for a required emergency exit window or door must be outlined around its exterior perimeter with, at a minimum, 1 inch (2.54 cm) wide yellow retroreflective tape. All retroreflective tape must be on the exterior surface of the bus and conform to all requirements of 49 CFR 571.217. Emergency roof exits may be outlined in either yellow or white retroreflective tape.
 - 2) Both audible and visible alarms shall alert the driver when the engine is running and any emergency exit door either:
 - A) Is not fully latched, or
 - B) Is locked and not readily operated manually.

- 3) An audible alarm shall alert the driver when the engine is running and any emergency exit window either:
 - A) Is not fully latched, or
 - B) Is locked and not readily operated manually.
- 4) The engine starting system shall not operate while any emergency exit door or window (optional or required) is locked from either inside or outside the bus. "Locked" means that the release mechanism cannot be activated and the exit cannot be opened by a person at the exit without a special device such as a key or special information such as a combination.
- 5) An alarm cut-off or "squench" control is prohibited.
- 6) Exception: No alarm is required for roof hatches.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.235 Floor Covering

- a) Plywood or equivalent material may be applied over the existing steel floor and securely fastened - shall be applied if specified by the purchaser. If applied, plywood shall be at least ½" exterior BB grade.
- b) All portions of the floor that come in contact with passengers' or driver's footwear shall be covered with a waterproof material. This floor covering shall not crack when subjected to sudden temperature change and shall be bonded securely to the floor with a waterproof substance. All seams and openings shall be filled with a waterproof sealer.
- c) The floor covering in the aisles and entrance area shall be of non-skid, wear-resistance type material commonly used in commercial passenger transportation vehicles.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.240 Glazing Materials

- a) All glazing in the rear of a school bus, including the door, shall be the fixed type.
- b) Laminated safety glass is optional. All applicable provisions of the FMVSS 205 (49 CFR 205) apply to the optional laminated safety glass and also to any plastic materials used in multiple-glazed unit, including meeting the pertinent tests indicated below, that are specified in ANSI Standard Z26.1-1996 or Z26.1a-1996

and are grouped in Table No. 1 of that Standard. Glazing shall be identified as shown below.

Glazing installed in:	Shall meet tests grouped in Z26.1 Table No. 1 under:	Shall bear one of the following identification markings:
Windshield	Item 1, either laminated glass or multiple glazed unit	AS 1 Glass
Window or door forward of rearmost location of driver's seat back		AS 1 Glass or AS 2 Glass
All Other locations		AS 1 Glass, AS 2 Glass or AS 3 Glass

- c) In addition, any exposed plastic layer of a multiple glazed unit shall be identified in conformance with the FMVSS 205 (49 CFR 571.205).
- d) All glazing shall be installed so the identification markings are legible.

AGENCY NOTE: See Section 442.310, Window Openings, for window operation requirements.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.245 Heater

- a) An inside temperature of not less than 50 degrees Fahrenheit at average minimum January temperature as established by the U.S. Department of Commerce, National Weather Service Office, for the area in which the vehicle is to be operated shall be maintained throughout the bus.
- b) The primary heater shall be a high output, fresh air type.
- c) The secondary heater may be recirculating type, and located so as not to interfere with aisle space. Each secondary heater shall display a nameplate that identifies the manufacturer and the heater capacity rating.
- d) The heater hoses shall be adequately supported to guard against excessive wear due to vibration and shall not interfere with or restrict the operation of any engine

function. Any hose in the passenger compartment shall be adequately protected to prevent injury from burns in the event of rupture.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.250 Identification/Lettering

- a) Except where otherwise required or allowed, lettering on the exterior of the body shall be black against a national school bus glossy yellow background. All required letters and numerals shall conform to Series "B", or heavier series, of the Standard Alphabets for Highway Signs issued by the Federal Highway Administration, Washington, D.C. 20591. Decals may be used instead of paint. Signs, numbers, or letterings, other than those either required by statutes or required or permitted by these standards shall not be affixed permanently on either the exterior of the bus or the interior glazing so as to be visible to the outside. Interior lettering shall contrast with its background.
- b) The words "SCHOOL BUS" shall be displayed against a national school bus glossy yellow background as high as practical and approximately centered on the front and rear of the bus body, in letters at least 200 mm (8") high (see Section 12-802 of the Code). These words may be painted on or applied to the bus body or displayed on a sign firmly attached to or built into the body. The background of an illuminated sign shall approximate the national school bus glossy yellow color as closely as feasible.
- c) A school bus identification number, supplied by the purchaser, shall be displayed as high as practical on the front and rear of the bus in numerals not less than 100 mm (4") high. Such number may be displayed on the sides of the bus as specified by the purchaser.
- d) *Either the owner's name or the school district number or both must be displayed on both sides of the bus at least four inches high, approximately centered and as high as practicable below the window line* (see Section 12-802 of the Code). The lettering must be located on one line.
- e) The body and/or chassis manufacturer's name, emblem, or other identification may be displayed, colorless or in any color, on any unglazed surface of the bus so as not to be mistaken for the name required in subsection (d) of this Section, and so as not to interfere with any required letters or numerals.
- f) The words "EMPTY WEIGHT", or the abbreviation "EMPTY WT.", or the letters "E.W.", followed by the empty weight of the bus (see Section 442.120), stated in pounds, shall be displayed on the exterior of the body near the rear edge of the service entrance in numerals and letters at least 50 mm (2") high (see Section 12-802 of the Code).

Examples: EMPTY WEIGHT 16,800 lb E.W. 16,800 lb

- g) The word "CAPACITY", or the abbreviation "CAP.", and the rated passenger capacity, as described in Section 442.214, followed by the word "PASSENGERS", or the abbreviation "PASS.", shall be displayed on the exterior of the body near the rear edge of the service entranceway, and on the interior above the right portion of the windshield, in numerals and letters at least 50 mm (2") high (see Section 12-802 of the Code).
- h) The words "NO STANDEES" shall be displayed only on the interior above the windshield, approximately opposite the aisle but to the right of the mirror and sun visor, in letters at least 50 mm (2") high.
- i) The words "EMERGENCY DOOR" or "EMERGENCY EXIT" in letters at least 5 cm (2") high must be displayed on the interior and exterior of the bus. "EMERGENCY DOOR" must be displayed at the top of, or directly above, any emergency exit door. "EMERGENCY EXIT" must be displayed at the top of, or directly above, or at the bottom of, any emergency exit window. They may be displayed on a separate colorless background (such as white, aluminum, or silver) that extends no more than 15 mm (.6") above or below the words and no more than 25 mm (1") to the right or left of the words.
- j) A black arrow, curved or straight, at least 150 mm (5.9") in length and 15 mm (.6") in width, showing the direction each exterior emergency exit release mechanism is to be moved to open the emergency exit, shall be painted or permanently affixed on the exterior yellow portion of the bus within 150 mm (5.9") of each release mechanism.
- k) An arrow showing the direction each interior emergency exit release mechanism is to be moved to open the emergency exit shall be painted or permanently affixed on the interior of the bus within 150 mm (5.9") of each emergency exit release mechanism. Each interior arrow shall contrast with its background and, where suitable space is limited, may be smaller than the exterior arrow(s) but must be conspicuous.
- l) Alternate Fuel
 - 1) *If the bus uses alternate fuel (e.g., propane, CNG), the vehicle must be marked with an identifying decal. Such decal shall be diamond shaped with white or silver scotchlite letters one inch in height and a stroke of the brush at least 1/4 inch wide on a black background with a white or silver scotchlite border bearing either the words or letters:*

"PROPANE" = If propelled by liquefied petroleum gas other than liquefied natural gas; or

"CNG" = If propelled by compressed natural gas. The sign or decal shall be maintained in good legible condition.

- 2) *The alternate fuel decal shall be displayed near the rear bumper and visible from the rear of the vehicle* (Section 12-704.3 of the Code).
- m) The vehicle's length (rounded up to nearest whole foot) must be displayed on or adjacent to the interior bulkhead clearly within the driver's view. (For example: vehicle length of 39.1 feet will be displayed as 40 feet.) Each letter or numeral must be at least two inches high and black in color. The measurement must be taken from the front bumper to the rear bumper.
- n) A "Stop Line" in contrasting color is required between 5.9 and 6.1 inches below the top of each side window opening. The line shall be located between each window that slides downward.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.253 Metal Treatment

- a) Unless excluded by this subsection, all steel or iron used in construction of the bus body and attached equipment shall be either resistant to atmospheric corrosion, or zinc coated, or treated by equivalent process. Particular attention shall be given to each fastener or attaching device, lapped surface, welded connection or fastening, cut edge, punched or drilled hole, surface subjected to abrasion, closed or box section, and any unvented or undrained area or space. The number of unvented or undrained areas or spaces is to be minimized. Excluded are door handles, grab handles, and interior decorative parts.
- b) As evidence that above requirements have been met, a sample of fastener, material, or section of body, coated or finished as installed in the bus, when subjected to a 1,000-hour salt spray test in accordance with American Society for Testing and Materials (ASTM) Standard B-117-1997 "Method of Salt Spray (Fog) Testing" shall not exhibit more than 10 percent reduction in weight after all adherent corrosion products are removed.

(Source: Added at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.255 Mirrors

- a) Interior Mirror: - A mirror shall be located inside the bus. It shall be firmly supported, constructed of clear view safety glass and securely backed and framed. It shall have rounded corners. Edges shall be padded to reduce danger of injury upon impact. The mirror shall afford the operator a good view of the bus interior and portions of the roadway to the rear.
- b) All exterior mirror systems shall conform to the applicable requirements of the FMVSS 111 (49 CFR 571.111).

- c) More convex mirrors than required above may be installed, if specified by the purchaser.
- d) The reflecting surface on the backside of each mirror glass shall be protected from abrasion, scratching, and atmospheric corrosion.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.258 Paint/Color Requirements

- a) *The exterior of each school bus shall be national school bus glossy yellow except as indicated in subsections (b) through (i) of this Section:*
- b) *The rooftop may be white.* Optional white roof shall terminate at any point from top of drip rail to 6" above drip rail. The front and rear roof caps shall remain national school bus glossy yellow.
- c) *Body trim, rub rails, and lettering other than on a stop signal arm shall be glossy black. Bumpers may be glossy black or a bright, light or colorless finish.*
- d) *Lettering on a stop signal arm shall be white on a red background.*
- e) *The hood and upper cowl may be lusterless black or lusterless school bus yellow.*
- f) *Grilles on the front, lamp trim and hubcaps may be a bright finish.* Wheels and rims may be black, gray, or manufacturer's colors.
- g) *The name or emblem of a manufacturer may be colorless or any color.*
- h) *The exterior paint of any school bus shall match the central value, hue and chroma set forth in this Part. (Section 12-801 of the Code)*
- i) Each opening for a required emergency exit window or door must be outlined around its outside perimeter with a minimum 1 inch (2.54 cm) wide yellow retroreflective tape. All retroreflective tape must be on the exterior surface of the bus and conform to all requirements of 49 CFR 571.217. Yellow retroreflective tape can be located on the rear bumper provided the space between the top of the bumper and the bottom of the rear emergency exit door is not adequate to accommodate the tape. Emergency roof exits may be outlined in either yellow or white retroreflective tape.

(Source: Added at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.259 Rack, Book/Luggage

Book/luggage racks are not allowed.

(Source: Added at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.260 Rub Rails

- a) There shall be one rub rail located approximately at seat level which shall extend from the rear of the entrance door on both sides to a point of curvature at the rear of the body.
- b) Rub rails shall be constructed of 16-gauge longitudinally corrugated or ribbed steel, ventilated, four inches minimum width, and securely fastened to the body by bolts, rivets, or welding.

(Source: Amended at 12 Ill. Reg. 4220, effective February 9, 1988)

Section 442.265 Seat Belts, Driver's and Passengers'

- a) See the FMVSS for requirements (49 CFR 571.209 and 210).
- b) The driver's seat belt assembly shall be arranged so that all portions of the assembly remain above the floor when not in use.
- c) If retractor(s) are installed, they shall be the automatic locking type.
- d) The driver's seat must be equipped with a lap belt/shoulder harness design.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.270 Seating

- a) No bus shall be equipped with "jump" or portable seats (this does not include child restraint systems).
- b) The driver's seat shall be rigidly positioned and have a fore-and-aft adjustment without the use of tools or other nonattached devices.
- c) A flip-up seat for passengers may be located only immediately adjacent to any side emergency door. The flip-up seat must conform to the following:
 - 1) The seat must be designed so that, when in the folded position, the seat cushion is flat against the seat back to prevent a child's limb from becoming lodged between the seat cushion and seat back.
 - 2) The seat must be designed to discourage a child from standing on the seat cushion when in the folded position.

- 3) The working mechanism under the seat must be covered to eliminate any tripping hazard.
- 4) All sharp metal edges on the seat must be padded to prevent any snagging hazard.
- 5) No portion of the door latch mechanism can be obstructed by a seat.
- 6) There must be at least 11.7 inches (30 cm) measured from the door opening to the seat back in front.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.275 Service Entrance and Door

- a) The service entrance shall be located on the right side near the front, in unobstructed and convenient view of the driver. The service entrance shall have a minimum vertical opening of 1.7 m (67") and a minimum horizontal opening of 610 mm (24").
- b) The service entrance steps shall be designed so that the first step shall not be more than 13 1/2" off the ground. If necessary, a step of adequate width and length shall be installed to meet this requirement. Provision shall be made to prevent road splash from the wheel from accumulating on the step if installed outside the body.
- c) The service door shall be either manually or power operated by the seated driver. When in the closed and secured position, the door operating mechanism shall prevent accidental opening but shall afford prompt release and opening by the driver. No exposed parts of a door operating mechanism shall come together so as to shear or crush finger(s). The vertical closing edge(s) of a service door shall be padded to lessen chance of injury.
- d) A power operated door shall be equipped for emergency manual operation in case of power failure. Instructions for emergency operation of a power operated door shall be affixed permanently on the interior of the door in letters at least 12 mm (.5") high.
- e) A single-section service door shall be hinged at the front of the service entrance.
- f) Glazed panels shall be installed in the service door to afford the driver a view of small children outside the door, traffic signs, and intersecting roadways. The bottom of each lower glass panel shall not be more than 10 inches from the top surface of the bottom step. The top of each upper glass panel shall not be more than 3 inches from the top of the door.

- g) Service Door Lock (Optional). If ordered by the purchaser, a lock may be installed on or at the service door. Any type service door locking system installed in the bus shall conform to at least one of the following requirements.
 - 1) Requirement 1: A locking system shall not be capable of preventing the driver from easily and quickly opening the service door; or
 - 2) Requirement 2: A locking system that is capable of preventing the driver from easily and quickly opening the service door shall include an audible and visible alarm to alert the driver when the engine is running and the service door is locked. No alarm disconnect, "squench control", or other alarm defeating or attenuating device shall be installed; or
 - 3) Requirement 3: A locking system shall not be capable of preventing the driver from easily and quickly opening the service door except when, and only when, a person outside the bus uses a key that is not capable of locking more than one of at least 1000 of the door manufacturer's key locking systems.
- h) A grab handle of steel, as long as practicable, shall be solidly attached to the left of any person entering the school bus. Forward handrails are prohibited, except when required by 92 Ill. Adm. Code 444 (Minimum Safety Standards for Construction of School Buses used in Special Education Transportation).

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.280 Stanchion Guard Panel or Barrier Guard

Either a Type A or Type B guard shall be installed.

- a) Type A Barrier Guard - A restraining barrier shall be installed in front of the right front passenger seat. The barrier shall be constructed to guard nonrestrained passenger(s) against being thrown into the stairwell or into the dash or windshield and shall be padded to give knee and head impact protection. The barrier shall conform to S5.2 of FMVSS 222, except that barrier width and barrier/seat separation shall be as required in paragraph (a)(1) and (2).
 - 1) The width of the barrier shall be reduced only as necessary to maintain a 12" wide aisle and service entrance way.
 - 2) The horizontal distance between the rear surface of the barrier and the front surface of the seat back shall not be less than 23".
 - 3) The vertical distance between the floor and the bottom of the barrier shall not exceed 2" at any point.

- 4) Except for the grab handle required in Section 442.275(d), the barrier shall not extend more than one inch ahead of the rear of the service door opening and no more than one inch into the space above a service entrance step.
 - 5) No portion of the barrier shall present a “snagging”, sharp, tripping or other hostile surface to a person moving through the aisle or service entrance way.
- b) Type B Stanchion Guard Panel - A stanchion post shall be installed to the rear and left of the entrance stepwell from the roof to the floor. Placement shall not restrict passageway at any level in either the service entrance door area or the aisle to less than 12”.
- 1) A guard rail and stepwell guard panel - sometimes called “modesty panel” - shall be installed from the stepwell stanchion to the right wall to guard nonrestrained right front seat passengers against being thrown into the stepwell or the dash or the windshield. The guard rail shall be approximately 30” above the floor and its guard panel shall not restrict the entrance passageway at any level. The panel shall extend from the guard rail to within two inches of the floor. The guard panel shall be positioned or flanged to avoid having its lower edge extended over the stepwell. The guard panel shall be at least 23” ahead of the front surface of the seat back on the right front seat.
 - 2) All stanchions and guard rails shall be a minimum of one inch outside diameter steel or equivalent strength tubing.
 - 3) Devices used to fasten the stanchion, guard rail and stepwell guard panel shall be of sufficient strength to hold in place if struck by passenger weight in a collision.
 - 4) Padding shall be applied to the stanchion and shall extend to within three inches of the bus ceiling and to within three inches of the bus floor. Padding on the guard rail shall extend from the bus wall to the point of support on the stanchion.

Section 442.285 Stop Signal Arm

- a) A stop signal arm panel must be installed on the left side of the bus that conforms to 49 CFR 571.131. The panel may be operated either manually or mechanically. Decals may be used in lieu of painting. Strobe lamps are acceptable on stop signal arm panels. See Appendix E for example.
- b) "Operated ... mechanically" shall be interpreted to include power operation. Also, "16-gauge metal" shall be interpreted to include thicker metal and any

nonmetallic material equivalent or superior to hot rolled 16-gauge mild steel in stiffness, corrosion resistance, and durability.

- c) Additional stop signal arm panels may be added at the purchaser's request. Additional panels must be located on the left side of the bus. Additional panels must operate in conjunction with the required panel and meet all stop arm panel requirements except as follows. The additional panel must not contain any lights, marking or reflective material on the front side of the panel. The additional panel must be located in the rear half of the bus adjacent to the rearmost window.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.290 Tool Compartment (Purchaser's Option)

- a) A fire-resistant container of adequate strength and capacity for storage of tools, chains, curriculum equipment, activity equipment, etc., may be installed. If installed, the container shall provide reasonable security for its contents and shall be securely fastened to prevent the container or its contents from becoming accidentally dislodged.
- b) If the storage container is not installed and tools, equipment, etc., are carried, each such item must be secured to prevent its becoming dislodged and causing injury to passengers.

Section 442.295 Sun Visor

- a) The driver's side shall be equipped with an interior adjustable sun visor with a minimum size of 5" X 16".
- b) No sun visor shall interfere with the operator's full view of the rearview mirror(s).
- c) A sun visor on the right passenger side is optional.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.300 Undercoating

The underside of the body, including floor members and the side panels below the floor, shall be coated with a fire-resistant undercoating material applied by the spray method so as to seal, insulate, reduce corrosion, and reduce interior noise. Non-metallic components need not be coated.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.305 Ventilation

The body shall be equipped with a suitable controlled ventilation system of sufficient capacity to maintain a satisfactory ratio of outside to inside air under operating conditions without opening of windows except in warm weather.

Section 442.310 Window Openings

This Section does not apply to a window or glazed panel installed forward of a front passenger seat, and is optional for a window installed either beside a rear passenger seat or a special service door or in a side emergency exit.

- a) All side windows shall open from the top only and shall operate freely.
- b) There shall be one vertical opening side window for each seat.
- c) Each side window shall provide an unobstructed emergency egress opening at least 9 inches high and 22 inches wide. The opening may extend to 18 inches above the unoccupied passenger seat cushion but no closer (to the seat cushion).
- d) A stop line for the window opening shall be applied six inches from the top of the window opening.
- e) The side windows may be split sash.
- f) The window latches shall be recessed.

AGENCY NOTE: See Section 442.240 for glazing material requirements.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.315 Windshield

See the FMVSS for requirements (49 CFR 571.104).

The windshield may be tinted and may have a "shade band".

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.320 Windshield Wipers

See the FMVSS for requirements (49 CFR 571.104).

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.325 Windshield Washer

See the FMVSS for requirements (49 CFR 571.104).

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

SUBPART C: CHASSIS REQUIREMENTS

Section 442.405 Air Cleaner

The bus shall be equipped with an adequate oil bath, dry element, or equivalent type air cleaner.

Section 442.410 Axles

- a) Must meet federal chassis requirements as indicated on the federal certification label as required by 49 CFR 567 (Certification) and 49 CFR 568 (Vehicles Manufactured in Two or More Stages).
- b) Wheel base shall not be less than 123 inches.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.415 Brakes

See the FMVSS for requirements (49 CFR 571.105).
Power brakes are required.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.420 Bumpers, Front

- a) The front bumper shall meet the chassis manufacturer's standards.
- b) The entire front bumper must be of metal construction unless an energy absorbing bumper is used.

AGENCY NOTE: See Section 442.213 for rear bumper requirements.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.425 Drive Shaft Guard

Each segment of the drive shaft shall be equipped with a suitable guard to prevent accident or injury in the event of its fracture or disconnection.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.430 Engine

Type and displacement may be specified by the purchaser.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.435 Exhaust System and Muffler

- a) The exhaust pipe, muffler and tail pipe shall be outside the bus body and attached to the chassis.
- b) The exhaust system shall be insulated from any insulated wire, flammable material, brake hose or line, or fuel system component by a securely attached metal shield at any point where the exhaust system is 11.8 inches (300 mm) or less (four inches (101.6 mm) or less if diesel powered engine) from the components listed in this subsection.
- c) The tail pipe may meet the chassis manufacturer's standard configuration. However, the tail pipe shall not exit beneath any fuel filler location or beneath any emergency exit door.
- d) The tail pipe shall extend out to, but not more than, 1 inch (25.4 mm) beyond the perimeter of the body or the bumper.
- e) The shielding of engine compartment components shall be governed by the chassis manufacturer's standards.
- f) Each gas conducting component that is not of stainless steel shall be of commercial heat and corrosion resistant exhaust system material and shall be nonflexible.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.440 Frame

After the date of manufacture of the incomplete vehicle, the chassis frame shall not be altered so as to extend the wheelbase. Other extension(s) of the chassis frame may be accomplished only by the incomplete vehicle, intermediate, or final-stage manufacturer or by an agent of the manufacturer properly instructed and authorized by the manufacturer to make the extension(s).

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.445 Fuel Tank

- a) See the FMVSS for requirements (49 CFR 571.301).

- b) The fuel tank shall have a minimum capacity of 24 gallons.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.450 Heater Connections

Each heater installation shall include two shut off valves as close to the engine inlet and outlet connections as practicable.

Section 442.455 Horn

The bus shall be equipped with at least one horn *capable of emitting sound audible under normal conditions from a distance of not less than 200 feet.* (Section 12-601 of the Code) The horn shall be conveniently controlled from the operator's position and tested in accordance with SAE J377.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.460 Ignition Lock

A key type lock or other device shall be provided to prevent the vehicle from being set in motion or its engine started by unauthorized persons.

Section 442.465 Instruments

The bus shall be equipped with the following nonglare illuminated instruments and gauges mounted for easy maintenance and repair and in such a manner that each is clearly visible to the seated operator. An indicator light in lieu of a pressure or temperature gauge is permissible.

- a) Speedometer
- b) Odometer
- c) Fuel Gauge
- d) Oil Pressure Gauge
- e) Water Temperature Gauge
- f) Ammeter (voltmeter) with graduated charge and discharge indications

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.470 Oil Filter

An oil filter of replaceable element type or cartridge type or disposable type shall be provided. The oil filter shall have an oil capacity of at least one quart.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.475 Shock Absorbers

Two front and two rear heavy-duty double-acting shock absorbers or equivalent damping devices shall be provided.

Section 442.480 Springs and Suspension

Each spring and other component in any of the suspension systems shall be capable of supporting its share of the rated gross axle weight during normal operations.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.485 Steering Mechanism

- a) The steering gear shall provide safe and accurate performance at maximum load and speed and shall be easily adjusted. Only changes approved by the chassis manufacturer shall be permitted.
- b) Power steering is the purchaser's option.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.490 Tires and Wheels

- a) See the FMVSS for requirements (49 CFR 571.120).
- b) Wheels and rims may be black, gray or manufacturer's colors.
- c) A spare tire is the purchaser's option. If the spare tire is carried inside, it shall be securely mounted so that it in no way interferes with the passenger seating accommodations, the emergency door operations or aisle space.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.495 Transmissions

- a) A manual shift transmission shall be fully synchronized in all forward gears. It shall provide for at least three forward and one reverse speeds.
- b) An automatic transmission is the purchaser's option.

SUBPART D: ELECTRICAL SYSTEM REQUIREMENTS**Section 442.605 Battery**

The storage battery shall be a nominal 12-volt type. It shall be of sufficient capacity to supply all electrical requirements but shall be rated not less than either 70-ampere hours at the 20-hour

discharge rate specified in SAE J537e or 105-minutes at the 25-ampere discharge rate specified in SAE J537h.

Section 442.610 Generator or Alternator

The generator or alternator with rectifier shall have a maximum output of at least 55-amperes (in accordance with SAE rating) and shall be ventilated and voltage controlled and, if necessary, current controlled and shall be capable of supplying all electrical requirements. The purchaser should specify a larger generator or alternator if needed under his/her operating conditions.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.615 Lamps, Reflectors, and Signals

- a) See the FMVSS for requirements (49 CFR 571.108).
- b) Alternately Flashing Signal Lamps. Each bus shall be equipped with an eight lamp alternately flashing signal system that conforms to S5.1.4 (b) of the FMVSS 108 (49 CFR 571.108) and 625 ILCS 5/12-805. A separate circuit breaker and a master switch shall be provided for this signal system. When in its "off" position, this master switch shall prevent operation of the eight lamp system; shall prevent operation of any lamps mounted on the stop signal arm panel required under subsection (hh); and shall prevent operation of any electrically controlled mechanism that would cause the stop signal arm panel to extend. The controls for the eight lamp flashing signals, the stop signal arm panel, and the service entrance door shall be arranged so as to provide for the following sequence of operations while the engine is running:
 - 1) Place the alternately flashing signal system master switch in its "off" position. Close and secure the service entrance door. Actuate the alternately flashing signal system hand or foot control. The alternately flashing signal lamps of either yellow (amber) or red color shall not go on.
 - 2) With the master switch "off" and the hand or foot control actuated, open the service door. The alternately flashing signals of either color shall not go on and the stop signal arm panel shall not extend.
 - 3) Deactivate the hand or foot control. Place the alternately flashing signal system master switch in its "on" position. Close and secure the service door. Then open the service door. The alternately flashing signal lamps of either color shall not go on and the stop signal arm panel shall not extend.
 - 4) Close and secure the service door. Actuate the alternately flashing signal system by hand or foot control. A yellow pilot lamp in the view of the driver and the yellow alternately flashing signals shall go on.

- 5) Desecure but do not open the service door. The yellow pilot and the yellow alternately flashing signals shall go off. A red pilot lamp in the view of the driver and the red alternately flashing signals shall go on. The stop signal arm panel shall extend.
 - 6) Fully open the service door. The red pilot and red signals shall remain on and the stop arm shall remain extended.
 - 7) Close but do not secure the service door. The red pilot and red signals shall remain on and the stop arm shall remain extended.
 - 8) Open the service door. The red pilot and red signals shall remain on and the stop arm shall remain extended.
 - 9) Close and secure the service door. The red pilot and red signals shall go off and the stop arm shall retract.
 - 10) Open the service door. Alternately flashing signals of either color shall not go on and the stop arm shall not extend.
- c) Interior Lighting. A minimum of two interior dome lamps shall be installed to adequately illuminate the entire aisle, the emergency passageway, and the stepwell. At least the nosings of the service entrance steps and the floor around the stepwell shall be illuminated automatically by opening of the service door. No lamp shall be installed at or near the eye level of a pupil moving through the service entranceway to the aisle unless such lamp does not shine directly into the eye(s) of any such pupil.
- d) Rear Turn Signals. Yellow turn signal lamps shall be mounted on the rear as far apart as practical and as high as practical but below the rear window. The effective projected illuminated area of these turn signal lamps shall be no less than required for the yellow alternately flashing signal lamps required under subsection (b) of this Section; i.e., .0122 m(2) (19 in(2)).
- e) Side Turn Signals. Two yellow side turn signal lamps conforming to SAE J914a are required. The lamps shall be "armored" and mounted on the body between the rub rails required under Section 442.260. The right lamp shall be within 1 m (39.4") of the rear of the service entrance. The left lamp shall be approximately the same distance from the front bumper as the right lamp.
- f) Stop Signals. Red stop lamps shall be mounted on the rear as far apart as practical but closer to the vertical centerline of the bus than the rear turn signal lamps required in subsection (d) of this Section, and at the same height as those turn signal lamps. The effective projected illuminated area of these stop lamps shall be no less than required for the red alternately flashing signal lamps required under subsection (b) of this Section, i.e., .0122 m(2) (19 in(2)).

- g) Strobe:
- 1) *One per bus;*
 - 2) *Shall emit white or bluish-white light;*
 - 3) *Shall be visible from any direction;*
 - 4) *Shall flash 60 to 120 times per minute;*
 - 5) *Shall be visible in normal sunlight;*
 - 6) *Mounted at or behind center of rooftop and equal distance from each side. Distance from rear will be calculated by measuring height of filament and multiplying same by 30 inches (i.e., filament height measured from the base of the strobe x 30 = distance from rear of bus where lamp is to be located). (Section 12-815 of Code)*
 - 7) If a roof exit, air conditioner, or the size of the bus interferes with the placement of a strobe as required by subsection (g)(6), the strobe can be placed to the rear of the roof exit or air conditioner as near as practicable above the rear axle and horizontally centered between the rear tires.
- h) Reflectors.
- 1) Front:
 - A) *Two yellow rigid or sheet type (tape) front reflex reflectors shall be attached securely and as far forward as practicable. (Section 12-202 of the Code)*
 - B) The front reflectors shall be located between 15 and 60 inches above the roadway at either fender, cowl, or body and installed so as to mark the outer edge of the maximum width of the bus.
 - C) No part of the required reflecting material may be obscured by a lamp, mirror, bracket, or any other portion of the bus. No part of the required reflecting material may be more than 11.8 inches (300 mm) inboard of the outer edge of the nearest rub rail (12 inches on a bus with chassis manufactured in March 1977 or earlier).
 - D) The reflector may be any shape (e.g., square, rectangle, circle, oval, etc.). A rigid type reflex reflector may be any size if permanently marked either DOT, SAE A, or SAE J 594;

otherwise, it shall display at least seven square inches of reflecting material (about 3 inch diameter if a solid circle).

- E) A sheet type (tape) reflex reflector may conform to the surface on which it is installed but its forward projected reflecting area shall be at least eight square inches.
- F) Exception: Buses that measure less than 80 inches wide are exempt. (49 CFR 571.108)

2) Left Side:

One amber no more than 12 inches from the front and one red no more than 12 inches from the rear. Mounted at a height not less than 15 inches and not more than 60 inches above the surface of the road. (Section 12-202 of the Code) On buses 20 feet or more in length, one amber as near center as practicable must also be provided. Reflectors must measure a minimum three inches in diameter.

3) Right Side:

One amber no more than 12 inches from the front and one red no more than 12 inches from the rear. Mounted at a height not less than 15 inches and not more than 60 inches above the surface of the road. (Section 12-202 of the Code) On buses 20 feet or more in length, one amber as near center as practicable must also be provided. Reflectors must measure a minimum three inches in diameter.

4) Rear:

- A) *Two red reflectors on rear body within 12 inches of lower right and lower left corners.* (Section 12-202 of the Code) Minimum three inches in diameter.
- B) Exception: Buses that measure less than 80 inches wide are exempt. (49 CFR 571.108)

AGENCY NOTE: See Section 442.258 for retroreflective tape requirements.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.620 Wiring

- a) See the FMVSS for requirements (49 CFR 571).

- b) All wiring for lamps and other electrical devices shall be as recommended for automobiles, motor coaches, and heavy duty starting motor circuits in SAE Recommended Practices J556, J555a and J541a and in other practices or standards referenced in the SAE Recommended Practices, unless specifically preempted by the FMVSS or this Part.
- c) Manufacturer's circuit arrangements are acceptable; however, a separate circuit for the alternately flashing signal lamps and stop signal arm lamps shall be installed.
- d) Extra fuse(s) for each size of fuse used on the bus may be conveniently mounted on the bus body if specified by the purchaser.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

SUBPART E: EQUIPMENT REQUIREMENTS

Section 442.705 Fire Extinguisher (Purchaser's Option)

- a) The bus shall be equipped with a dry-chemical gauge-type fire extinguisher, mounted in a bracket of automotive type and located in the driver's compartment in full view of and readily accessible to the driver.
- b) The fire extinguisher shall be of a type approved by the Underwriter's Laboratories, Inc., with a rating of not less than 10-BC. The operating mechanism shall be sealed with a type of seal that will not interfere with the use of the fire extinguisher. Halon fire extinguishers rated at 10-BC are approved.

Agency Note: At least one fire extinguisher MUST be carried in each school bus transporting pupils but the purchaser may elect to install his own extinguisher which conforms to this Section after the bus is purchased.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.710 First Aid Kit (Purchaser's Option)

- a) The bus shall either carry or provide for a first-aid kit, removable and readily identifiable and mounted in full view in an accessible place in the driver's compartment.
- b) Contents of kit: The kit shall not contain a tourniquet or any type of medicine. The kit shall contain at least the items specified below, in at least the specified quantities:

Unit Type - Minimum Contents

4" bandage compress.....*2 packages

2" bandage compress.....	*2 packages
1" adhesive compress.....	1 package
40" triangular bandage with two safety pins.....	1 package
Wire or wood splint.....	1 package

*May be longer or wider

AGENCY NOTE: A first-aid kit must be carried in each school bus transporting pupils but the purchaser may elect to install his own first-aid kit which conforms to this Section.

(Source: Amended at 18 Ill. Reg. 14789, effective September 20, 1994.)

Section 442.715 Warning Devices for Disabled Vehicles (Purchaser's Option)

Emergency warning devices are required to be carried on school buses weighing more than 8,000 pounds and operated upon any highway outside an urban district. The warning devices must be securely stored. The warning devices shall consist of:

- a) *At least three portable red emergency reflective devices that conform to 49 CFR 571.125; and*
- b) *At least two red cloth flags, not less than 12 inches square, with standards to support the flags; or in lieu of the flags, at least two additional portable emergency reflective devices that conform to 49 CFR 571.125. (Section 12-702 of the Code)*

Agency Note: The purchaser may elect to install the warning devices after the bus is purchased.

(Source: Amended at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.APPENDIX A Hexagon Shaped Stop Signal Arm (Repealed)

(Source: Repealed at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.APPENDIX B Federal Motor Carrier Safety Standards (FMVSS) and Related Rules (Repealed)

(Source: Repealed at 26 Ill. Reg. 3255, effective February 19, 2002)

Section 442.APPENDIX C Specification for Sheet Reflective Material--Encapsulated Lens (Based on FHWA Notice N 5040.17, June 15, 1976) (Repealed)

(Source: Repealed at 8 Ill. Reg. 15505, effective August 10, 1984)

Section 442.APPENDIX D Sheeting and Tape, Reflective: Nonexposed Lens (Repealed)

(Source: Repealed at 26 Ill. Reg. 3255, effective February 19, 2002)

TITLE 92: TRANSPORTATION
CHAPTER I: DEPARTMENT OF TRANSPORTATION
SUBCHAPTER e: TRAFFIC SAFETY (EXCEPT HAZARDOUS MATERIALS)

PART 443
INSPECTION PROCEDURES FOR TYPE II SCHOOL BUSES

Section

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- ILLUSTRATION F School Bus Emergency Exits

AUTHORITY: Implementing and authorized by Article VIII of the Illinois Vehicle Equipment Law [625 ILCS 5/Ch. 12, Art. VIII] and the Illinois Vehicle Inspection Law [625 ILCS 5/Ch. 13].

SOURCE: Adopted at 19 Ill. Reg. 4634 , effective March 13, 1995 ; amended at 22 Ill. Reg. 15371, effective August 7, 1998.

Section 443.10 Purpose and Scope

This Part prescribes the requirements of the Illinois Department of Transportation governing:

- a) Implementation of Article VIII, the Illinois Vehicle Equipment Law [625 ILCS 5/Ch. 12, Art. VIII]; and
- b) Inspection procedures for Type II school buses.

(Source: Amended at 22 Ill. Reg. 15371, effective August 7, 1998)

Section 443.20 Application

This Part applies to the following persons:

- a) Department personnel;
- b) Owners of Official Testing Stations;
- c) Employees of Official Testing Stations;
- d) School bus operation managers; and
- e) School bus drivers.

Section 443.25 Incorporation by Reference of Federal Regulations

Whenever this Part refers to the Code of Federal Regulations and that reference incorporates the federal regulations by reference, the federal regulations incorporated shall be that which was effective as of October 1, 1996, not including any later amendments or editions. Copies of appropriate federal regulations are available for inspection at the Department's Commercial Vehicle Safety Section.

(Source: Amended at 22 Ill. Reg. 15371, effective August 7, 1998)

Section 443.30 Standards of Construction

- a) "Shall" and "must" are used in the imperative sense. "Shall" imposes an obligation to act. "Must" defines a condition that is to be satisfied. "May" allows permissiveness under terms specified in the standards. "Will" indicates intention, promise or willingness.
- b) Words imparting the masculine gender include the feminine.
- c) Changes in the administration of the state school bus inspection program and changes to federal and state law have caused the purchase or manufacture date of school buses to be critical in the application of this Part. The effective dates for some of these standard will vary.

- 1) Exemptions to some standards are provided for school buses purchases prior to September 1974, the effective date of the Department's "Vehicle Inspection Stations Governing School Buses."
- 2) Exemptions are provided for Type II school buses manufactured prior to October 1978, the date of the Department's Order "Minimum Safety Standards for Construction of Type II School Buses."
- 3) Some standards are identified with other effective dates. These standards are applicable to all school buses manufactured or purchased after the identified date or during the time frame specified.

Section 443.40 Definitions

"Body" - Portion of vehicle that encloses the occupant and cargo spaces and separates those spaces from the chassis frame, engine compartment, driveline, and other chassis components, except certain chassis controls used by the driver.

"Body-on-Chassis" - Completed vehicle consisting of a passenger seating body mounted on a truck type chassis (or other separate chassis) so that the body and chassis are separate entities, although one may reinforce or brace the other.

"Bus" - Every motor vehicle, other than a commuter van, designed for carrying more than ten persons. (Section 1-107 of the Illinois Vehicle Code (the Code)) [625 ILCS 5/1-107]

"Chassis" - Every frame or supportive element of a school bus that contains but is not limited to the axles, engine, drive train, steering components, and suspension which the body is attached to. (Section 1-110.1 of the Code)

"Code" - The Illinois Vehicle Code [625 ILCS 5]

"Commercial Vehicle Safety Section" (CVSS) - A section of the Bureau of Safety Programs of the Division of Traffic Safety of the Illinois Department of Transportation.

"Department" - The Department of Transportation of the State of Illinois, acting directly or through its authorized agents or officers. (Section 13-100 of the Code)

"Empty Weight" - Unloaded vehicle weight; i.e., the weight of a vehicle with maximum capacity of all fluids necessary for operation of the vehicle but without cargo or occupant.

"Federal Motor Vehicle Safety Standards" (FMVSS) - The rules, regulations and standards set forth in 49 CFR 571.

"Gross Vehicle Weight Rating or GVWR" - The value specified by the manufacturer as the loaded weight of the school bus. (Section 12-800 of the Illinois Vehicle Equipment Law)

"Illinois Vehicle Equipment Law" - {625 ILCS 5/Ch. 12}

"Interstate School Bus" - Any school bus not owned by a school district designed to transport 16 or more persons, including the driver, that is used for interstate charter purposes (i.e., travels to another state). The bus must be marked with a federal Interstate Commerce Commission (ICC) number. Interstate school buses require an annual inspection which meets 49 CFR 396 - Appendix G as well as the semi-annual or 10,000 mile inspection required by 625 ILCS 5/13-101.

"Manufacturer" - (unless otherwise indicated at the point of use) means the person or organization whose name follows "MANUFACTURED BY" or "MFD BY" on the federal certification label.

"Passenger" - Every occupant of the vehicle who is not the driver.

"Purchase Date" - Date when purchase transaction was completed, not when body or chassis was built.

"School Bus" -

Type I School Bus - A School Bus with gross vehicle weight rating of more than 10,000 pounds.

Type II School Bus - A School Bus with gross vehicle weight rating of 10,000 pounds or less. (Section 12-800 of the Illinois Vehicle Equipment Law)

Every motor vehicle, except as provided below, owned or operated by or for any of the following entities for the transportation of persons regularly enrolled as students in grade 12 or below in connection with any activity of such entity:

*Any public or private primary or secondary school;
Any primary or secondary school operated by a religious institution;
or
Any public, private or religious nursery school.*

This definition shall not include the following:

A bus operated by a public utility, municipal corporation or common carrier authorized to conduct local or interurban transportation of passengers when such bus is not traveling a specific school bus route but is:

On a regularly scheduled route for the transportation of other fare paying passengers;

*Furnishing charter service for the transportation of groups on field trips or other special trips or in connection with other special events;
or*

Being used for shuttle service between attendance centers or other educational facilities.

A motor vehicle of the first division.

A motor vehicle designed for the transportation of not less than 7 nor more than 16 persons that is operated by or for a public or private primary or secondary school, including any primary or secondary school operated by a religious institution, for the purpose of transporting not more than 15 students to and from interscholastic athletic or other interscholastic or school sponsored activities. (Section 1-182 of the Code)

"Seating Reference Point" - The unique design H-point, as defined in SAE J1100, which simulates the position of the pivot center of the human torso and thigh. Each school bus manufacturer utilizes different criteria to determine the specific seating reference point on passenger seats for vehicles they manufacture.

"Vehicle" -

First Division: Those motor vehicles which are designed for the carrying of not more than ten persons.

Second Division: Those vehicles which are designed for carrying more than ten persons, those designed or used for living quarters and those vehicles which are designed for pulling or carrying property, freight or cargo, those motor vehicles of the First Division remodeled for use and used as motor vehicles of the Second Division, and those motor vehicles of the First Division used and registered as school buses. (Section 1-217 of the Code)

(Source: Amended at 22 Ill. Reg. 15371, effective August 7, 1998)

Section 443.APPENDIX A Air Cleaner through Barrier, Guard

a) AIR CLEANER

PROCEDURE/SPECIFICATIONS:

Any type is acceptable.

REJECT VEHICLE IF:

Air cleaner is not properly attached or is missing.

b) AISLE

PROCEDURES/SPECIFICATIONS:

Unobstructed minimum clearance leading from service door to emergency door or back of bus must be at least 12 inches wide. Floor to ceiling height must be a minimum of 58.9 inches at any location within the aisle.

An aisle may be present adjacent to any side emergency door. For buses manufactured on or after September 1, 1994, the following must be met:

- 1) An unobstructed aisle measuring at least 11.7 inches (30 cm) must be maintained at all times, except when a flip-up seat is in the down position.
- 2) No portion of the door latch mechanism can be obstructed by a seat.
- 3) The 11.7 inch (30 cm) aisle is measured from the door opening to the seat back in front. (49 CFR 571.217)

AGENCY NOTE: Flip-up seats are allowed. See SEATS, PASSENGER for standards

REJECT VEHICLE IF:

Aisle does not meet minimum standards.

c) ALTERNATOR
(GENERATOR)

PROCEDURES/SPECIFICATIONS:

The generator, or alternator with rectifier, shall have a minimum capacity rating of 55 amperes and shall be capable of meeting all electrical requirements.

REJECT VEHICLE IF:

Alternator does not meet minimum standards or is not functioning.

d) AXLES

PROCEDURES/SPECIFICATIONS:

Meets federal chassis requirements as indicated on federal certification label. (49 CFR 568) Wheel base shall not be less than 123 inches.

REJECT VEHICLE IF:

Axles show visible signs of apparent damage, leaking fluids or are not firmly attached.

e) BARRIER,
GUARD

PROCEDURES/SPECIFICATIONS:

Shall be either the following Type A or B:

TYPE A: Constructed and thickly padded to give head and knee impact protection. Installed at the rear of service entrance at least 23 inches ahead of seat back and no more than one inch from right hand wall, bottom shall be no more than two inches above floor. Guard barrier shall match width and above-floor height of the seat-back on right-front forward-facing seat; provided, however the barrier's width shall be reduced as necessary to maintain a 12 inch wide service entrance way and aisle. Except for a grab handle, the guard barrier shall not extend more than one inch ahead of the rear of service door opening nor more than one inch into the space above any service step. No portion of the barrier shall present a "snagging," sharp, tripping, or other hostile surface to a person moving through aisle or service entrance way.

TYPE B: Stanchion post shall be installed to the rear and left of the service entrance step well from floor to ceiling with guard rail attached approximately 30 inches above the floor. A step well guard panel installed from stanchion to right hand wall and from guard rail to within two inches of floor. Clearance between step well and first seat should be at least 24 inches measured from panel to front face of seat back at cushion height. All stanchion and guard rails shall be padded. Padding on the stanchions shall extend to within three inches of ceiling and floor; on guard rail it shall extend from wall to stanchion. (49 CFR 568)

Exception: All buses manufactured prior to September 1, 1974, require Type A or B. Buses manufactured from September 1, 1974, to March 31, 1977, require Type A.

Exception: Buses manufactured on and after April 1, 1977, are not required to have guard barriers.

Exception: See 92 Ill. Adm. Code 445.APPENDIX B (Inspection Procedures for Type II Special Education School Buses) for other possible exceptions.

REJECT VEHICLE IF:

Barrier is not solidly attached. Padding or covering shows wear and tear. Barrier does not meet requirements.

(Source: Amended at 22 Ill. Reg. 15371, effective August 7, 1998)

Section 443.APPENDIX B Battery or Batteries through Bumper, Front

a) BATTERY OR
BATTERIES

PROCEDURES/SPECIFICATIONS:

Battery may be mounted either in engine compartment or on outside of passenger/driver area. Battery shall be a nominal 12-

volt type. It shall be of sufficient capacity to supply all electrical requirements but shall be rated not less than either 70-ampere hours at the 20-hour discharge rate or 105-minutes at the 25-ampere discharge rate.

REJECT VEHICLE IF:

Battery or batteries are not securely mounted; excessively corroded; of insufficient capacity.

b) BATTERY
CABLES

PROCEDURES/SPECIFICATIONS:

Check condition.

REJECT VEHICLE IF:

Cables are corroded or are not securely attached.

c) BATTERY
CARRIER

PROCEDURES/SPECIFICATIONS:

When the battery is mounted outside the engine compartment it shall be welded or bolted in a closed, weather-tight, and vented compartment that is located and arranged so as to provide for convenient routine servicing. The battery compartment door, or cover, shall be secured by a manually operated latch or other fastener. A latch or fastener must be designed in such a fashion as to keep the door closed when in the latched position. Each electrical cable connecting the battery in this carrier to the body or chassis shall be one piece between the terminal connector and the first body or chassis terminal connector.

REJECT VEHICLE IF:

Battery carrier does not meet requirements.

d) BRAKES

PROCEDURES/SPECIFICATIONS:

Every motor vehicle shall be equipped with two separate means of applying the brakes and they shall be so constructed that failure of any one part of the operating mechanism shall not leave the motor vehicle without brakes. (Section 12-301(a) of the Illinois Vehicle Equipment Law)

REJECT VEHICLE IF:

Brakes do not meet requirements.

1) Backing
Plate

PROCEDURES/SPECIFICATIONS:

Check condition.

REJECT VEHICLE IF:

Backing plate is in poor condition.

2) Drums/
Discs

PROCEDURES/SPECIFICATIONS:

Inspect drums and/or discs for cracks or for being worn or reworked beyond the manufacturer's minimum limits.

REJECT VEHICLE IF:

Worn or reworked beyond the manufacturer's minimum limits.

3) Emergency
/Parking Brake

PROCEDURES/SPECIFICATIONS:

Emergency/parking brake system must apply brakes to at least two wheels. (Section 12-301(a) of the Illinois Vehicle Equipment Law)

AGENCY NOTE:

Micro brakes are not considered a separate means of braking and are not acceptable.

Procedures for testing:

- 1) Apply operating control fully.
- 2) Check actuating mechanism for release.

Brake Performance Test:

Using Drive-On Pad Type Tester:

- 1) Drive vehicle onto brake machine pads at 4-8 m.p.h.
- 2) Apply emergency/parking brake to bring vehicle to a halt. Do not lock wheels.
- 3) Note the braking forces registered by the brake machine.

Using Roll-On Type Tester:

- 1) Position axle with emergency brake onto roller.

- 2) Apply emergency brake but do not lock wheels.

REJECT VEHICLE IF:

Emergency/parking brake does not meet requirements.

Procedures for testing:

- 1) Not equipped with emergency/parking brakes. Operating mechanism does not hold in the applied position.
- 2) Actuating mechanism does not fully release when release control is operated properly.

Brake Performance Test:

Drive-On Tester:

Machine does not register a total braking force of at least 20% of vehicle empty weight. Braking forces at opposite wheels on same axle vary more than 20%.

Roll-On Tester:

Machine does not register a total braking force of at least 20% of vehicle empty weight. Braking forces at opposite wheels on same axle vary more than 20%.

- 4) Emergency
Brake
Ratchet
(Pedal or
Lever)

PROCEDURES/SPECIFICATIONS:

Must be in proper adjustment. If vehicle was manufactured with a warning light, it must be visible when emergency brake is activated.

REJECT VEHICLE IF:

Emergency brake ratchet or warning light do not meet requirements.

- 5) Pedal
Clearance
(Service
Brakes)

PROCEDURES/SPECIFICATIONS:

Minimum 1 1/2 inch clearance with pedal fully depressed.

REJECT VEHICLE IF:

Pedal clearance does not meet requirements.

6) Power
Systems

A) Air

PROCEDURES/SPECIFICATIONS:

i) Air Pressure

With air system fully charged (compressor governor "cut-out") run engine at low idle. Make one full (maximum) brake application and immediately record reservoir air pressure.

Apply and release brakes until pressure indicated on the air gauge is at least 10 psi (i.e., pounds per square inch) below governor "cut-in" pressure. Run engine at high idle and determine seconds required to raise reservoir pressure from recorded pressure.

REJECT VEHICLE IF:

Time required to raise air pressure from recorded to cut-out is more than 30 seconds. Air gauge is missing or does not operate.

ii) Low Pressure Warning Device

PROCEDURES/SPECIFICATIONS:

Complete the following steps to evaluate low pressure warning device.

- 1) Before starting the engine, apply brakes and release until low air pressure warning device functions.
- 2) Start the engine.
- 3) Apply service brakes and release until air compressor is activated.
- 4) Continue to run engine until compressor cut-out pressure is reached.
- 5) Record compressor cut-out pressure.
- 6) Shut engine off.

Determine if low pressure warning device is missing or inoperative.

If located in the driver's forward field of view, the warning device can be a visual device only. If not located in the driver's front view, the device must be both audible and visible. For buses manufactured before September 1, 1974, the device can be either audible or visible.

Record the reading found on the pressure gauge at which the low pressure warning device functions.

REJECT VEHICLE IF:

Missing or inoperative low pressure warning device. Device does not meet requirements.

Low pressure warning device does not operate at 55 psi or one half cut-out pressure, whichever is less.

B) Electric/
Hydraulic

PROCEDURES/SPECIFICATIONS:

Turn key to "off" position. Depress service brake pedal. Electric hydraulic pump must come "on" (listen).

REJECT VEHICLE IF:

Electric pump does not operate properly or is absent.

C) Hydraulic

PROCEDURES/SPECIFICATIONS:

Inspect booster belt(s), supports, tubes, hoses, connections and general condition. Clean reservoir and cover as necessary and check master cylinder fluid level. Do not contaminate fluid.

Turn key to "on" position. Warning signal must come on (look/listen). Depress brake pedal lightly. Start engine. Pedal must move down slightly (feel). Warning signal must go "off" (look/listen).

REJECT VEHICLE IF:

Belt is slack or worn; tube or hose is damaged; any part leaks or is cracked; master cylinder fluid is below manufacturer's recommended capacity.

Either booster or warning signal does not operate properly.

D) Vacuum/
Hydraulic

PROCEDURES/SPECIFICATIONS:

Inspect tank(s), chambers, hoses, tubes, connectors, clamps, and booster air cleaner.

Inspect supports and attachments.

With engine off, repeatedly apply service brakes until vacuum is depleted, with medium pressure on brake pedal, start engine; release brake and operate engine until maximum vacuum is established; stop engine; apply service brakes hard.

With brakes still applied, start engine; after one minute of running engine, check "Low Vacuum" indicator.

REJECT VEHICLE IF:

Any component is restricted, collapsed, scraped, cracked, loose, or broken. Booster air cleaner is clogged.

Any support or attachment is broken. Any connecting line or other component is not attached or supported so as to prevent damage from scraping or rubbing.

Foot pedal does not fall away from foot when engine is started; insufficient vacuum reserve to permit one full service brake application after engine is off without actuating "low vacuum" indicator; valve or diaphragm leaking.

7) Service
Brakes

PROCEDURES/SPECIFICATIONS:

Must be equipped with service brakes on all wheels. (Section 12-301(a)(5) of the Illinois Vehicle Equipment Law)

Must be equipped with a "split system" on service brakes. (49 CFR 571.105)

Power-assisted service brakes are required. (49 CFR 571.105)

REJECT VEHICLE IF:

Service brakes do not meet requirements.

A) Brake
Inspection
Report

PROCEDURES/SPECIFICATIONS:

Verify Brake Inspection Report for following (refer to Section 443.Illustration C for example of form):

- i) Vehicle Identification Number (VIN), make and year must correspond to the bus presented for inspection.
- ii) Brake Inspection Report must indicate the date and mileage at the time the brake inspection was performed. If date is more than one year prior to time of inspection or mileage has exceeded 10,000 miles, a brake inspection must be performed.
- iii) The form must be completed with all required information. No blank lines are acceptable.

Exception: If the bus has operated less than 10,000 miles and less than 12 months have passed since the bus was manufactured, a Brake Inspection Report is not required. Write "Less than 10,000 miles and less than one year old" in the Remarks Section on the Vehicle Inspection Report.

REJECT VEHICLE IF:

Absent, invalid, or incomplete brake inspection report.

B) Brake
Performance
Test

PROCEDURES/SPECIFICATIONS:

Using Drive-On Pad Type Brake Tester:

Check vehicle's stopping ability before testing.

Drive vehicle onto brake machine pads at 4-8 m.p.h.

Apply service brakes to bring vehicle to a halt. Do not lock wheels.

Note the braking forces registered by the brake machine.

Using Roll-On Type Tester:

When using roller-type tester each axle must be tested separately. Transmission must be in neutral when testing brakes on any drive axle.

Drive front axle onto rollers. Start roller motor. Apply service brakes but do not lock wheels.

Repeat the above steps for each axle.

The total braking force on a vehicle must be determined by adding the results of the test on each axle.

REJECT VEHICLE IF:

Drive-On Tester:

Machine does not register a total braking force of at least 60% of the vehicle empty weight.

Computerized tester does not register a total braking force of at least 45% of the vehicle empty weight.

Braking forces at opposite wheels on same axle vary more than 20%.

Roll-On Tester:

Machine does not register a total braking force of at least 60% of the vehicle empty weight.

Braking forces at opposite wheels on same axle vary more than 20%.

e) BUMPER,
FRONT

PROCEDURES/SPECIFICATIONS:

Manufacturer's standard for vehicle or an equivalent bumper which meets or exceeds manufacturer's standards. Black color is not required.

(See CROSSING CONTROL ARM in SECTION 443.APPENDIX C for requirements.)

REJECT VEHICLE IF:

Bumper must be solidly attached, and free from damage or sharp edges.

(Source: Amended at 22 Ill. Reg. 15371, effective August 7, 1998)

Section 443.APPENDIX C Bumper, Rear through Drive Shaft Guard

a) BUMPER,
REAR

PROCEDURES/SPECIFICATIONS:

Manufacturer's standard for vehicle and so attached or shielded between body and bumper as to prevent hitching rides or tows. Black color is not required.

Exception: A bus manufactured in October 1978 or earlier is exempt from having a non-hitchable bumper.

REJECT VEHICLE IF:

Rear bumper does not meet requirements. Bumper is not solidly attached. Sharp edges are present. Rear bumper is hitchable.

b) CERTIFICATE AND
REGISTRATION
CARD HOLDER

Not required for Type II School Bus.

c) CERTIFICATION
LABEL (FEDERAL)

PROCEDURES/SPECIFICATIONS:

Inspect federal certification label if the chassis (incomplete vehicle) was manufactured after November 10, 1978.

The manufacturer's label must contain the following information:

- 1) Name of vehicle (bus) manufacturer and the month and year in which manufacture of the vehicle was completed;
- 2) Name of incomplete vehicle (chassis) manufacturer and the month and year in which he performed his last manufacturing operation on the incomplete vehicle;
- 3) Gross vehicle weight rating, or ratings (GVWR);
- 4) Gross axle weight ratings (GAWR);
- 5) The statement, "This vehicle conforms to all applicable federal motor vehicle safety standards in effect in (month/year)";
- 6) The vehicle identification number (VIN);
- 7) The vehicle's classification (usually " BUS"). (49 CFR 567.5)

Alterer's certification: A certified vehicle might have been altered before its purchase for use as a school bus. The alterations may have included, but are not limited to, classification changes, gross weight rating changes, or changes to the application/effective date of a federal motor vehicle safety standard. If any such alteration occurred, the bus must carry an additional federal label that identifies the alterer, shows when

alteration was completed, "as altered" GVWR, GAWR and classification (if changed). It must also state that the altered vehicle conforms to all applicable federal motor vehicle safety standards in effect in (month/year). (49 CFR 567.7)

REJECT VEHICLE IF:

A required label is absent, defaced, destroyed, not riveted, or not permanently affixed. "Permanently affixed" means the label cannot be removed without destroying or defacing it.

A certification label does not contain the required statement and all other information required for that label.

d) CROSSING CONTROL
ARM

PROCEDURES/SPECIFICATIONS:

- 1) *Required on school buses manufactured after December 31, 1997. [625 ILCS 5/12-807.2] (See P.A. 90-108, effective July 14, 1997.)*
- 2) Must meet or exceed SAE J1133.
- 3) Must be capable of full operation between, and including, the temperatures -40° F and 160° F.
- 4) The arm, when activated, must extend a minimum of five feet from the front face of the bumper.
- 5) The arm must be mounted on the far right side (entry side) of the front bumper.
- 6) Appropriate brackets shall be used to attach the arm to the front bumper for proper operation and storage.
- 7) All component parts must meet or exceed any applicable federal motor vehicle safety standards in effect at the time of manufacture.
- 8) The arm must extend at the same time the stop arm panel extends. An independent "on/off" switch is prohibited.
- 9) If the driver can stop the arm from extending with the use of an optional override switch, the arm sequence must automatically reset once the service door is closed.
- 10) Red lights and/or red reflectors are prohibited.

REJECT VEHICLE IF:

If equipped, arm does not meet requirements.

e) DEFROSTERS

PROCEDURES/SPECIFICATIONS:

Defrosting equipment shall keep the windshield and the window to the left of the operator and the glass in the service door clear of fog, frost and snow, using heat from heaters and circulation from fans. Must conform to federal standard 49 CFR 571.103. (Auxiliary fans are not considered to be a defrosting and defogging system.)

REJECT VEHICLE IF:

Defrosting system does not function properly. Auxiliary fans are not securely mounted or blades are not protected.

f) DRIVE SHAFT
GUARD

PROCEDURES/SPECIFICATIONS:

Shall be of sufficient strength to protect each segment of the drive shaft and prevent it from going through the floor or dropping to the ground if broken.

REJECT VEHICLE IF:

Drive shaft guard is missing, not firmly attached, or does not properly protect each segment of the drive shaft.

(Source: Amended at 22 Ill. Reg. 15371, effective August 7, 1998)

Section 443.APPENDIX D Electrical System through Fenders

a) ELECTRICAL
SYSTEM

1) Circuits

PROCEDURES/SPECIFICATIONS:

Circuits arranged to manufacturer's specifications are acceptable. An additional circuit shall be added for the alternate flashing signal lamps and the stop signal lamps. Circuits may be added as necessary.

REJECT VEHICLE IF:

Breaks in insulation are present. Not on proper circuit or properly wired.

2) Fuses

PROCEDURES/SPECIFICATIONS:

Two extra fuses for each size fuse used on the bus shall be conveniently mounted on the bus body.

REJECT VEHICLE IF:

Fuses are not present or are not conveniently mounted.

3) Switches

PROCEDURES/SPECIFICATIONS:

Check operation and condition.

REJECT VEHICLE IF:

Switches not operating properly or are missing.

4) Wiring

PROCEDURES/SPECIFICATIONS:

All wires shall be properly insulated and securely attached at not more than 18.1 inches (460 mm) intervals. Check condition.

REJECT VEHICLE IF:

Insulation is frayed or missing. Wiring not securely attached.

b) EMERGENCY
EXITS

PROCEDURES/SPECIFICATIONS:

All buses must be equipped with either a rear emergency door or a left side emergency door and a rear emergency window. (49 CFR 571.217)

Additional emergency exits, including roof hatches, may be required on buses manufactured on or after September 1, 1994. (49 CFR 571.217)(See Section 443.Illustration F)

For buses manufactured on or after May 2, 1994, each opening for a required emergency exit must be outlined around its outside perimeter with a minimum 1 inch (2.54 cm) wide yellow retroreflective tape. This yellow retroreflective tape must be on the exterior surface of the bus. (49 CFR 571.217)

Optional emergency roof hatches are allowed. They must be installed according to manufacturer's specifications.

Open and close roof hatches (required or optional) to verify their operation.

REJECT VEHICLE IF:

Emergency exits do not meet requirements. Roof hatches do not open.

1) Side

PROCEDURES/SPECIFICATIONS:

Inside release mechanism must be protected against accidental operation and must be easily accessible from the inside. Must be operated only by moving handle as shown by arrow and without use of remote control, power device, key tool, or any attached or unattached object other than the release handle. (49 CFR 571.217)

Shall be hinged on front side and open outward. Shall be equipped with safety glass (or equivalent) located in upper portion of the door. Door shall be of at least the same gauge metal as the body. Shall be 24 inches or more clear horizontal opening, with forward edge of opening in line with the rearmost edge of a seat back. Shall have 45 inches or more clear vertical opening. Inside release mechanism must be protected against accidental release; easily accessible; readily operated manually without the use of remote control, power device or tool. Door and rubber seal must not be defective. (See Alarms and Locks in this subsection for requirements.)

For buses manufactured on or after September 1, 1994, there must be at least 11.7 inches (30 cm) measured from the door opening to the seat back in front. (49 CFR 571.217)

REJECT VEHICLE IF:

Inside release mechanism is not protected. Inside and outside release mechanisms are not accessible, or operable; unable to open easily; hinge is located at incorrect location; location and size of opening is incorrect. General condition of door and/or rubber seal is defective.

2) Rear

PROCEDURES/SPECIFICATIONS:

Shall open outward with a 120 degree minimum swing. Upper portion of each door shall contain fixed safety glazing. Shall be equipped with a fastening device which can be quickly released from inside and outside the body. The outside fastening device must be non-hitchable. Door and rubber seal must not be defective. (See Alarms and Locks in this subsection for requirements.)

Inside release mechanism must be protected against accidental operation and must be easily accessible from the inside. Must

be operated only by moving handle as shown by arrow and without use of remote control, power device, key, tool, or any attached or unattached object other than the release handle. (49 CFR 571.217)

Exception: On a bus manufactured in August 1974 or earlier, the emergency exit shall be in the center of the rear end, exempt from 120 degree swing and may open either vertically or horizontally.

REJECT VEHICLE IF:

Inside release mechanism is not protected. Inside and outside release mechanisms are not accessible or do not operate properly. Outside release mechanism is hitchable. Door does not open easily. Location of hinge is incorrect. Size of opening is incorrect. Glazing does not meet requirements. General condition of door and/or rubber seal is defective.

3) Window

PROCEDURES/SPECIFICATIONS:

When the emergency door is located on the left side, a rear emergency window shall be provided. Minimum 16 inches high and 48 inches wide. Designed to be opened from the inside or the outside. Hinged on top, designed and operated to insure against accidental closing in an emergency. Inside handle shall provide for quick release. Outside handle shall be nondetachable and nonhitchable. (See Alarms and Locks in this subsection for requirements.)

REJECT VEHICLE IF:

If equipped, operating mechanisms do not function. Glass is cracked or broken.

4) Alarms and
Locks

PROCEDURES/SPECIFICATIONS:

Both audible and visible alarms shall alert the driver when the engine is running and any emergency exit door either:

- A) Is not fully latched; or
- B) Is locked and not readily operated manually.

An audible alarm shall alert the driver when the engine is running and any emergency exit window either:

- A) Is not fully latched; or
- B) Is locked and not readily operated manually.

The engine starting system shall not operate while any emergency exit door or window (optional or required) is locked from either inside or outside the bus. "Locked" means that the release mechanism cannot be activated and the exit opened by a person at the exit without a special device such as a key or special information such as a combination.

An alarm cut-off or "squelch" control is prohibited.

On a van conversion, any rear cargo door inside lock(s) of the type installed by the chassis manufacturer (such as commonly used in cars - "push/pull" type) shall be made inoperable. The mechanism cannot, through jarring, vibration, etc. cause the door to become locked and be inoperable from the inside or outside.

Exception: No alarm is required for roof hatches.

Exception: On a bus with chassis (incomplete vehicle) manufactured in March 1977 or earlier, the engine starting system may operate while the emergency door is locked. The "Not Stop Engine" requirement applies to every bus.

Exception: On a bus manufactured in August 1974 or earlier, the "Not Fully Latched" alarm is optional. The "Door Locked" alarm is required on each bus with a lockable emergency door.

REJECT VEHICLE IF:

Alarms do not alert driver as required. Locks do not meet requirements.

c) ENTRANCE DOOR

1) Physical
Requirements

PROCEDURES/SPECIFICATIONS:

Door shall be located to right of operator and operated by an over-center control. Upper portions of door shall be safety glass or equivalent. Vertical closing edges shall be equipped with flexible material for a proper seal and to prevent injury.

Each door on the right side of the vehicle, hinged or sliding, except the service door shall be made permanently inoperable by means other than the rub rail on the outside of the body.

REJECT VEHICLE IF:

Binding or jamming is evident, malfunctions, over-ride device on power operated door does not function, control not accessible by driver.

Door is missing, loose, or damaged. Rubber seal is missing or torn.

2) Locks and Alarms

PROCEDURES/SPECIFICATIONS:

A service door lock is not required but if any type of service door locking system is installed on the bus, the system shall conform to one of the following:

- A) The locking system shall not be capable of preventing the driver from easily and quickly opening the service door from inside the vehicle; or
- B) A locking system that is capable of preventing the bus driver from easily and quickly opening the service door shall include an audiovisual alarm. The alarm shall be audible and visible and must alert the driver when the engine is running and the service door is locked. An alarm disconnect, "squench control," or other alarm defeating or weakening device shall not be installed; or
- C) A locking system shall not be capable of preventing the bus driver from easily and quickly opening the service door except when a person outside the bus uses a key that is not capable of locking more than one of at least 1000 of the door manufacturer's key locking systems.

REJECT VEHICLE IF:

Locks and alarms do not meet requirements. Bent, worn, or dislocated parts that would delay quick door release and opening are present.

d) EXHAUST SYSTEM

1) General

PROCEDURES/SPECIFICATIONS:

"Exhaust System" includes each component used to conduct gas from an engine exhaust port (manifold) to authorized exit point, including each sealing, connecting, and supporting component. Exhaust system shall be outside body and attached to chassis. Size of tail pipe shall not be reduced after it leaves muffler. Any flexible component that contains exhaust gas shall be of stainless steel. System shall not leak. System shall have an outlet at its discharge end(s) only.

REJECT VEHICLE IF:

All parts of system are not securely fastened and supported.

Any part of system is leaking or missing.

Any part of system contains holes not made by manufacturers.

2) Shielding

PROCEDURES/SPECIFICATIONS:

Any flammable material, electrical insulation, brake hose, or fuel system component containing fuel that is located within 11 13/16 inches (300 mm) of a component containing exhaust gas shall be safeguarded by a heat shield.

Exhaust system shall be shielded from either accidental contact, "hitching to," or "standing on," except at discharge end. A chassis or body component may provide required shield.

REJECT VEHICLE IF:

Shielding is not present (if applicable).

Exception: Fuel system components on diesel powered engines that are located within four inches of a component containing exhaust gas shall be shielded.

3) Discharge

PROCEDURES/SPECIFICATIONS:

The exhaust system's discharge end (tail pipe) shall be within .98 inch (25 mm) of bus side, rear, or rear corner. It must not extend more than one inch past the bumper. Exhaust fumes shall not be directed towards a door or other opening into bus body. In addition, the discharge end, or ends, shall not be located in any prohibited zone shown in Section 443.Illustration B.

REJECT VEHICLE IF:

Exhaust discharges into prohibited zones. (See Illustration B.)

Exhaust system (tail pipe) does not discharge in proper location.

Tail pipe extends more than one inch past the bumper.

Exhaust fumes are released towards a door or other opening into bus body.

e) FENDERS

PROCEDURES/SPECIFICATIONS:

Shall be properly braced and free from any body attachment.

There shall be approximately one inch located between front fenders and back face to cowl.

REJECT VEHICLE IF:

Fenders are not solid or in bad condition.

Sharp edges are evident.

Fenders are loose or protrude out.

(Source: Amended at 22 Ill. Reg. 15371, effective August 7, 1998)

Section 443.APPENDIX E Filter, Oil through Frame and Body

a) FILTER, OIL

PROCEDURES/SPECIFICATIONS:

Replaceable element or cartridge type. Minimum one-quart capacity.

REJECT VEHICLE IF:

Oil filter leaks or does not meet requirements.

b) FIRE
EXTINGUISHER

PROCEDURES/SPECIFICATIONS:

Pressurized dry-chemical gauge type approved by Underwriters' Laboratories, Inc., rating of not less than 10 B.C. mounted in bracket and readily accessible. Sealed with a type of seal that will not interfere with operation. If stored in locked compartment, compartment must be labeled. Halon fire extinguishers (10 B.C.) are approved.

REJECT VEHICLE IF:

Gauge does not indicate in the calibrated or marked "Full Charge" area. Seal is broken. Extinguisher is not mounted, not in a quick release holder or not labeled in compartment, if applicable. Improper rating. Missing.

c) FIRST AID KIT

PROCEDURES/SPECIFICATIONS:

Kit shall be readily identifiable, removable, and mounted in readily accessible place in driver's compartment -- either in full view or in specified secured compartment (see LOCKED

COMPARTMENT). If not carried in compartment, the case shall be dust tight and substantially constructed of durable material. The contents shall include, but not be limited to the following:

Unit Type (Minimum Contents)

4" bandage compress - 1 package

2" bandage compress - 1 package

1" bandage or adhesive compress - 1 package

40" triangle bandage with two safety pins - 1

Splint, wire or wood - 1

A tourniquet or any type of ointment, antiseptic, or other medicine shall not be included.

AGENCY NOTE: OHSA approved blood-borne pathogen kits are permitted.

REJECT VEHICLE IF:

Kit is not complete. Dust or other visible dirt is present inside case. Minimum number of individual packages are not sealed. Medicine or tourniquet is present. Locked compartment containing kit is not labeled. Not mounted in readily accessible location. Missing.

d) FLOORS AND
FLOOR COVERING

PROCEDURE/SPECIFICATIONS:

A plywood of 5/8 inch exterior BB grade or equivalent material shall be applied over the existing steel floor and securely fastened. Covering in underseat area shall be of fire resistant floor covering of type commonly used in passenger transportation equipment and shall have a minimum thickness of .125 inch. The floor covering in the aisle shall be nonskid, wear resistant, and fire resistant type. The aisle floor covering shall have a minimum thickness of .140 inch.

All floor coverings and metal floor stripping must be permanently bonded to the floor and must not crack when subjected to sudden changes in temperature. Bonding or adhesive material shall be waterproof. All seams must be sealed with waterproof sealer. All openings in floorboard or fire wall between chassis and passenger carrying compartment must be solid and sealed.

Boots and seals around shift levers, emergency brakes and interior engine covers must be secure and solidly attached.

REJECT VEHICLE IF:

Abnormal wear and obstructions are present. Holes or openings are present in floors, floor covering, interior engine cover, or boots. Metal floor stripping is not securely attached or broken. Interior engine cover is not fastened securely. Floor or floor covering does not meet requirements.

e) FRAME AND
BODY

PROCEDURES/SPECIFICATIONS:

Visually inspect:

- 1) Body mounts shall be attached and sealed to the chassis cowl so as to prevent the entry of water, dust or fumes through the joint between the chassis cowl and the body.
- 2) Cross members and mounting bolts.
- 3) Engine mounting bolts.
- 4) Frame shall extend to rear of body cross member.
- 5) Frame extension is permitted when alterations are behind rear hanger or rear springs and not for the purpose of extending wheel base.
- 6) Collision damage which is detrimental to the safe operation of the vehicle.

REJECT VEHICLE IF:

- 1) Cracked, loose, missing bolts. Any repair done by welding body to frame, insulation strip missing.
- 2) Loose, cracked, broken or missing.
- 3) Missing, loose.
- 4) Cracked, broken, bent, rusted to a depth as to substantially weaken frame - welding except by body manufacturer.
- 5) Unless permitted, frame extends past wheel base.
- 6) Collision damage which is detrimental to the safe operation of the vehicle.

(Source: Amended at 22 Ill. Reg. 15371, effective August 7, 1998)

Section 443.APPENDIX F Fuel Storage and Delivery System through Horn

a) FUEL STORAGE AND DELIVERY SYSTEM

PROCEDURES/SPECIFICATIONS:

Entire fuel system, except extensions for driver control of air or fuel, must be outside passenger and driver compartment.

REJECT VEHICLE IF:

Any part of fuel system, except extensions for driver control of air or fuel, is within passenger/driver compartment.

1) Fuel Filler Cap

PROCEDURES/SPECIFICATIONS:

Meets manufacturer's specifications. Must be the same as or equivalent to original equipment.

REJECT VEHICLE IF:

Fuel filler cap is defective or missing.

2) Fuel Lines

PROCEDURES/SPECIFICATIONS:

Firmly attached. No leakage, seepage, abrasion, or chafing. Must be 11 13/16 inches (300 mm) from any part of exhaust system that contains exhaust gas or be safeguarded by a heat shield. Inside engine compartment, the chassis manufacturer's standard shall govern separation and shielding between parts designed by chassis manufacturer.

Exception: Fuel system components on diesel powered engines that are located within four inches of a component containing exhaust gas shall be shielded.

REJECT VEHICLE IF:

Fuel lines are cracked, leak, insecure mounting, damaged, clamps missing, mount clips missing or not separated or not shielded properly (if applicable).

3) Fuel Filler Tube

PROCEDURES/SPECIFICATIONS:

Check condition.

REJECT VEHICLE IF:

Fuel filler tube leaks or is not secure.

- 4) Fuel Pump PROCEDURES/SPECIFICATIONS:
- Check condition.
- REJECT VEHICLE IF:
- Fuel pump leaks, is damaged or is not secure.
- 5) Fuel Tank(s) PROCEDURES/SPECIFICATIONS:
- Minimum capacity of 24 gallons, mounted, filled, and vented entirely outside body. Must meet manufacturer's specifications. (49 CFR 571.301)
- REJECT VEHICLE IF:
- Fuel tank(s) have leakage, seepage, or abrasion; hole or crack that would leak or seep when tank is full.
- 6) Fuel tank mount(s) PROCEDURES/SPECIFICATIONS:
- Check condition.
- REJECT VEHICLE IF:
- Fuel tank mount(s) are cracked, loose, or bolts are missing.
- 7) Fuel tank straps PROCEDURES/SPECIFICATIONS:
- Check condition.
- REJECT VEHICLE IF:
- Fuel tank straps are cracked, loose, or missing.
- PROCEDURES/SPECIFICATIONS:
- 8) Alternate Fuel Systems (LPG or CNG) An alternate fuel system which is no longer in use must be completely removed from the bus.
- A) Carburetion Equipment A fuel filter is required on alternate fuel systems.
- B) Container Installation i) Compressed or liquefied gas containers shall not be mounted in the passenger or driver's compartment.

- ii) Container valves, appurtenances and connections shall be mounted in an enclosed compartment.
- iii) Containers shall be located at least 36 inches from the entrance door and any emergency exit. Due to the smaller size of Type II school buses, space limitations may sometimes make it impossible to locate a fuel tank further than 36 inches from an exit. *A Type II school bus has a gross vehicle weight rating of 10,000 pounds or less [625 ILCS 5/12-800] as defined in Section 12-800 of the Illinois Vehicle Equipment Law.* If the original fuel tank for a Type II bus was located within 36 inches from any exit, the alternate fuel container may be located in the same location as the original tank.

C) Identification

The fuel identification decal (see Section 443.Illustration D) shall be displayed near the rear bumper and visible from the rear of the vehicle. The decal shall not be placed on any black portion of the bus body.

D) Pipe and Hose Installation

- i) No fuel supply line shall pass through the driver or passenger's compartment.
- ii) The pressure relief device shall be fabricated so that in the event of stress, the pipe or adapter will break away without impairing the function of the relief valve.
- iii) If installed, the adapter connecting the piping system to the pressure relief device shall neither touch nor restrict any movable part of the pressure relief valve.
- iv) The relief valve discharge piping system (piping system) must not be reduced at any point from the relief valve to the point of release into the atmosphere.
- v) The piping system shall be routed to minimize sharp elbows or bends. Installation of any commercially available piping installed to meet the manufacturer's specifications is acceptable. Any fittings that restrict the flow of discharge are prohibited. From the pressure relief device adapter to the atmosphere, the minimum inside diameter of the piping must measure at least 3/4 of an inch.
- vi) The piping system shall neither block nor hamper the operation of any window or door. The piping system shall preserve widths of passageways, aisles and emergency exits.

- vii) Every portion of the piping system shall be gas tight (except the outlet) and shall be able to withstand forces from the discharge when the relief valve is in full open position. If for any reason the discharge outlet becomes blocked, the piping system must be capable of holding the full system pressure.
- viii) To facilitate the removal of accumulated waste, a drain cock shall be installed at the lowest point of the piping system. The drain must be capable of being held open manually and close automatically to prevent expelling LPG if discharged through the relief valve. A weep hole, or other opening that may result in discharged LPG flaming beneath the bus is prohibited.
- ix) The portion of the piping system that leads upward to the atmosphere shall be installed either inside the passenger compartment, on the outside of the bus, or in the body wall between the inner and outer "skins" of the bus body.
- x) Piping on the outside of the body shall be shielded below the window line to prevent "grabbing hold" or "hitching to." However, discharge piping that is located between the windshield and the vent window at the left front corner of the body need not be shielded.
- xi) Any portion of the piping system that is installed either inside the passenger compartment or inside the body wall shall consist of one piece originating below the bus floor and exiting outside the bus roof. Every hole where piping passes through the floor or roof shall be sealed.
- xii) The piping system must terminate above the eave lines of the bus body.
- xiii) The outlet of the piping system shall be located at least 36 inches from the air inlet or outlet of a ventilator or similar device installed on or near the roof. A "similar device" includes the fresh air intake of a heating, ventilating or air conditioning system. It does not include a side window that opens near the roof.
- xiv) A rain cap is required where the piping system exits into the atmosphere to minimize water or dirt from entering into either the relief valve or its discharge piping. Installation of any commercially available rain cap installed to meet the manufacturer's specifications is acceptable. The cap shall remain in place except when the relief valve operates. The cap shall be installed to

minimize the entrance of water or dirt while the vehicle is in motion.

- xv) The discharge piping system on a special education school bus shall conform to all provisions of this Part.

REJECT VEHICLE IF:

Propane relief valve/piping system is not properly installed.
Alternate fuel system does not meet requirements listed above.

b) GRAB HANDLES

1) Exterior Not required.

2) Interior

PROCEDURES/SPECIFICATIONS:

Shall be of stainless clad steel, installed inside doorway, solidly attached on left side, and as long as practicable.

As instructed by an officer of the Department, draw a 1/2 inch hexagon nut attached to a string through the junction where the grab handle attaches to the lower stepwell.

REJECT VEHICLE IF:

Missing or not solidly attached.

Nut becomes lodged on grab handle. (Retrofit kit is required.)

c) HEATERS

PROCEDURES/SPECIFICATIONS:

Must be capable of maintaining inside temperature of 50 degrees. The heater hoses shall be supported to guard against excessive wear due to vibration and shall not interfere with or restrict the operation of any engine function. Any hose in the passenger compartment shall be protected to prevent injury from burns in the event of rupture. Primary heater shall be a high output fresh air type. Heater must be padded if not protected by seat.

The secondary heater may be a recirculating type and located so as not to interfere with aisle space.

REJECT VEHICLE IF:

Heater is missing; in poor working condition; defective hoses, supports or baffles; not firmly attached or padded when required.

d) HOOD

PROCEDURES/SPECIFICATIONS:

Open hood and inspect safety catch and hinges for proper operation. Close hood and inspect for proper full closure. Manually inspect latches or remote control for proper operation.

REJECT VEHICLE IF:

Hood does not open or hood latches do not securely hold hood in its proper fully-closed position. Secondary or safety catch does not function properly. Hinge is broken, missing, or not attached to body.

e) HORN

PROCEDURES/SPECIFICATIONS:

Dual electric horns shall be provided giving an audible warning at a distance of 200 feet and shall be conveniently controlled from the operator's seated position. (Section 12-601 of the Illinois Vehicle Equipment Law)

REJECT VEHICLE IF:

Horn control is missing, defective or not audible.

(Source: Amended at 22 Ill. Reg. 15371, effective August 7, 1998)

Section 443.APPENDIX G Instruments and Instrument Panel through Locked Compartment

a) INSTRUMENTS
AND INSTRUMENT
PANEL

PROCEDURES/SPECIFICATIONS:

Shall be equipped with the following nonglare illuminated instruments and gauges mounted for easy maintenance and repair and in such a manner that each is clearly visible to the seated driver. An indicator light instead of a pressure or temperature gauge is permissible. (49 CFR 571.101)

- 1) Speedometer;
- 2) Odometer;
- 3) Fuel Gauge;
- 4) Oil Pressure Gauge;
- 5) Water Temperature Gauge;
- 6) Ammeter (voltmeter) with graduated charge and discharge indications;
- 7) High beam headlight indicator;
- 8) Directional signal indicator;

- 9) Air pressure or vacuum gauge (when air or vacuum brakes are used);
- 10) Eight light flasher indicator;
- 11) Emergency/Service Brake Indicator.

REJECT VEHICLE IF:

Instrument and/or instrument panel does not operate properly; instruments are missing; inaccurate readings.

b) INSULATION

PROCEDURES/SPECIFICATIONS:

The ceiling and sidewalls shall be thermally insulated with a fire-resistant material which shall reduce the noise level and vibrations.

REJECT VEHICLE IF:

Insulation does not meet requirements.

c) LETTERING

1) Exterior

PROCEDURES/SPECIFICATIONS:

The body and chassis manufacturer's name, emblem, or other identification may be displayed (colorless or any color) on any unglazed surface of the bus.

AGENCY NOTE: School buses with interstate authority may display the company's name, city and state of its base and the interstate "MC" number. This lettering must be black in color.

REJECT VEHICLE IF:

Exterior lettering does not meet requirements. Lettering or decals are not distinct, required or allowed. Lettering is obstructed.

A) Front

PROCEDURES/SPECIFICATIONS:

"SCHOOL BUS" in black at least eight inches (200 mm) high placed as high as possible on body or sign attached thereto. Vehicle number assigned for identification shall be a minimum of four inches (100 mm) high and located as high as practicable. Decals are permissible. All lettering must be black. (Section 12-802 of the Illinois Vehicle Equipment Law)

Exception: All buses purchased prior to September 1974, may have roof mounted "SCHOOL BUS" sign with flashing red lights.

REJECT VEHICLE IF:

Lettering does not meet requirements. Lettering is not distinct, required or allowed. Lettering is obstructed.

B) Left

PROCEDURES/SPECIFICATIONS:

Either the owner's name or the school district number or both must be at least four inches high, approximately centered and as high as practicable below window line. (Section 12-802 of the Illinois Vehicle Equipment Law). The above required lettering must be located on one line.

If bus is equipped with a side emergency door, it must be labeled "EMERGENCY EXIT" in letters at least two inches high at the top of the emergency door, or directly above, or on the door glazing.

Optional: Vehicle number assigned for identification may be displayed at a minimum height of four inches (100 mm).

Decals are permissible. All lettering must be black.

For buses manufactured on or after May 2, 1994, "EMERGENCY DOOR" in letters at least 1.95 inches (5 cm) high must be located at the top of, or directly above, any emergency exit door. For any emergency window exit, "EMERGENCY EXIT" must be located at the top of, or directly above, or at the bottom of the emergency window exit in letters at least 1.95 inches (5 cm) high. The labeling must be of a color that contrasts with its background. (49 CFR 571.217)

REJECT VEHICLE IF:

Lettering does not meet requirements. Lettering is not distinct, required, or allowed. Lettering is obstructed.

C) Rear

PROCEDURES/SPECIFICATIONS:

"SCHOOL BUS" in black lettering at least eight inches (200 mm) high placed as high as possible on body or sign attached thereto. (Section 12-802 of the Illinois Vehicle Equipment Law) "EMERGENCY DOOR" or "EMERGENCY EXIT" in lettering at least two inches high at top of emergency door, or directly above, or on door glazing.

"EMERGENCY EXIT" (for buses without rear emergency door) in letters at least two inches high directly below rear emergency window, or on exit glazing. An arrow, at least 5.9 inches in length and 3/4 inch in width indicating direction each release mechanism should be turned to open door or window located

within 5.9 inches of release handle, in black. Vehicle number assigned for identification shall be a minimum 4 inches (100 mm) high. Decals are permissible. All lettering must be black.

If bus uses alternate fuel (e.g., propane, CNG), vehicle must be marked with identifying decal. Such decal shall be diamond shaped with white or silver scotchlite letters one inch in height and a stroke of the brush at least 1/4 inch wide on a black background with a white or silver scotchlite border bearing either the words or letters:

"PROPANE" = If propelled by liquefied petroleum gas other than liquefied natural gas; or

"CNG" = If propelled by compressed natural gas. The sign or decal shall be maintained in good legible condition.

The alternate fuel decal shall be displayed near the rear bumper and visible from the rear of vehicle. (See Section 443. Appendix F(a)(8) and Section 443. Illustration D) (Section 12-704.3 of the Illinois Vehicle Equipment Law)

Exception: In case of "push" or "pull" type of release mechanism where the direction of movement to open emergency exit cannot be shown by one arrow, either three or four straight arrows shall be placed equally spaced as practicable around the object to be pushed or pulled, with the head of each arrow adjacent to and pointing directly at that object. Each arrow shall be the same color and, when practicable, the same size as though it were a single arrow. In addition, the pertinent word "PUSH" or "PULL" shall be displayed near that object.

AGENCY NOTE: If adequate space is not available in required positions for emergency door lettering, lettering may be immediately below window level.

For buses manufactured on or after May 2, 1994, "EMERGENCY DOOR" in letters at least 1.95 inches (5 cm) high must be located at the top of, or directly above, any emergency exit door. For any emergency window exit, "EMERGENCY EXIT" must be located at the top of, or directly above, or at the bottom of the emergency window exit in letters at least 1.95 inches (5 cm) high. The labeling must be of a color that contrasts with its background. (49 CFR 571.217)

REJECT VEHICLE IF:

Lettering does not meet requirements. Lettering or arrows are not distinct, required, or allowed. Lettering is obstructed.

Buses using alternate fuels are not properly marked with decal.
Decal is in wrong location.

D) Right

PROCEDURES/SPECIFICATIONS:

Either the owner's name or the school district number or both must be at least four inches high, approximately centered and as high as practicable below the window line. (Section 12-802 of the Illinois Vehicle Equipment Law) The above required lettering must be located on one line.

The following lettering must be at least two inches high:

- i) *The word "CAPACITY," or the abbreviation "CAP.," and the rated passenger capacity followed by the word "PASSENGERS," or the abbreviation "PASS.," shall be displayed on the outside of the body near the rear edge of the service entrance.*
- ii) *Empty weight in pounds shall be shown on bus.*
(Section 12-802 of the Illinois Vehicle Equipment Law)

Manufacturer's identification name, emblem, or number(s) may be displayed but not on service door glazing. Manufacturer's name, emblem, etc. must not interfere with required lettering. Decals are permissible. All lettering must be black.

For buses manufactured on or after May 2, 1994, "EMERGENCY DOOR" in letters at least 1.95 inches (5 cm) high must be located at the top of, or directly above, any emergency exit door. For any emergency window exit "EMERGENCY EXIT" must be located at the top of, or directly above, or at the bottom of the emergency window exit in letters at least 1.95 inches (5 cm) high. The labeling must be of a color that contrasts with its background. (49 CFR 571.217)

REJECT VEHICLE IF:

Lettering does not meet requirements. Lettering or decals are not distinct, required, or allowed. Lettering is obstructed.

2) Interior

A) Front

PROCEDURES/SPECIFICATIONS:

Each letter or numeral must be at least two inches (50 mm) high and contrasting sharply with its background. A colorless background strip (such as white, aluminum or silver) may be used. Decals are permitted.

On right side: Either "CAPACITY" or "CAP." plus numerals showing rated passenger capacity, followed by either "PASSENGER" or "PASS."

As nearly as practicable opposite the center of aisle, but to right of inside mirror, either "NO STANDEES" or "NO STANDEES PERMITTED."

The vehicle's length (rounded up to the nearest whole foot) shall be displayed on the bulkhead clearly within the driver's view. (For example: vehicle length of 39.1 feet will be displayed as 40 feet.)

A red cross formed of five equal squares with words "FIRST-AID KIT" shall be displayed on the compartment door, or cover, if the first-aid kit is to be carried in the locked compartment.

The words "FIRE EXTINGUISHER" shall be displayed on the compartment door, or cover, if the fire extinguisher is to be carried in the locked compartment.

Exception: On a bus with chassis (incomplete vehicle) manufactured in March 1977 or earlier, "NO STANDEES" need not be opposite center of aisle and the word "PASSENGERS," or "PASS.," is optional.

REJECT VEHICLE IF:

Lettering does not meet requirements. Lettering is not black, distinct, required or allowed.

After January 1, 1999, vehicle length is not displayed properly or is absent.

B) Left

PROCEDURES/SPECIFICATIONS:

A "Stop Line" in contrasting color is required between 5.9 and 6.1 inches below the top of the window opening. The line shall be located between each window that slides downward.

If bus is equipped with a side emergency door it is to be labeled "EMERGENCY EXIT" in letters at least two inches high directly above the door.

If bus is equipped with side emergency windows, they are to be labeled "EMERGENCY EXIT" in letters at least two inches high directly below the window.

An arrow indicating the direction in which to move release mechanism handle(s) to open emergency exit and operating

instructions shall be painted or permanently affixed within six inches of each release handle.

For buses manufactured on or after May 2, 1994, "EMERGENCY DOOR" in letters at least 1.95 inches (5 cm) high must be located at the top of, or directly above, any emergency exit door. For any emergency window exit, "EMERGENCY EXIT" must be located at the top of, or directly above, or at the bottom of the emergency window exit in letters at least 1.95 inches (5 cm) high. The labeling must be of a color that contrasts with its background. Concise operating instructions describing the motions necessary to unlatch and open the door must be located within 5.85 inches (15 cm) of the release mechanism on the inside surface of the bus. These operating instructions shall be in letters at least .39 inches (1 cm) high and of a color that contrasts with its background. (49 CFR 571.217)

REJECT VEHICLE IF:

Lettering does not meet requirements. Line or line and lettering is not distinct, required, or allowed.

C) Rear

PROCEDURES/SPECIFICATIONS:

"EMERGENCY DOOR" in letters at least two inches high directly over emergency door exit. "Emergency door operating instructions" applied to door. Arrow or arrows required unless "push or pull" type of release mechanism is used.

In the case of a "push" or "pull" type of release mechanism where the direction of movement to open the emergency exit cannot be shown by one arrow, either three or four straight arrows shall be placed as equally spaced as practicable around the object to be pushed or pulled, with the head of each arrow adjacent to and pointing directly at that object. Each arrow shall be the same color and, when practicable, the same size as though it were a single arrow. In addition, the pertinent word "PUSH" or "PULL" shall be displayed near that object.

For buses manufactured on or after May 2, 1994, "EMERGENCY DOOR" in letters at least 1.95 inches (5 cm) high must be located at the top of, or directly above, any emergency exit door. For any emergency window exit, "EMERGENCY EXIT" must be located at the top of, or directly above, or at the bottom of the emergency window exit in letters at least 1.95 inches (5 cm) high. The labeling must be of a color that contrasts with its background. Concise operating instructions describing the motions necessary to unlatch and open the door must be located within 5.85 inches (15 cm) of the release mechanism on the inside surface of the bus. These

operating instructions shall be in letters at least .39 inches (1 cm) high and of a color that contrasts with its background. (49 CFR 571.217)

REJECT VEHICLE IF:

Lettering does not meet requirements. Lettering is not distinct, required, or allowed.

D) Right

PROCEDURES/SPECIFICATIONS:

A "Stop Line" in contrasting color is required between 5.9 and 6.1 inches below the top of the window opening. The line shall be located between each window that slides downward. Decals are permitted.

"EMERGENCY EXIT" shall be on or immediately below emergency window (if installed).

Instructions for emergency operation of a power operated door shall be affixed permanently on the inside of the door in letters at least .5 inch high. Decals are permitted.

Optional route identification markers (numbers or symbols) are allowed. They must be located in the first window directly behind the service entrance door. If route identification markers are installed in permanent holder or bracket, the holder or bracket must have rounded edges or be padded.

For buses manufactured on or after May 2, 1994, "EMERGENCY DOOR" in letters at least 1.95 inches (5 cm) high must be located at the top of, or directly above, any side emergency door. For any emergency window exit "EMERGENCY EXIT" in letters at least 1.95 inches (5 cm) high must be located at the top of, or directly above, or at the bottom of the emergency window exit. The labeling must be of a color that contrasts with its background. Concise operating instructions describing the motions necessary to unlatch and open the exit must be located within 5.85 inches (15 cm) of the release mechanism on the inside surface of the bus. These instructions shall be in letters at least .39 inches (1 cm) high and of a color that contrasts with its background. (49 CFR 571.217)

REJECT VEHICLE IF:

Lettering does not meet requirements. Line or line and lettering is not distinct, required, or allowed. Lettering is obstructed.

E) Ceiling

PROCEDURES/SPECIFICATIONS

For buses manufactured on or after May 2, 1994, any roof exit must be labeled "EMERGENCY EXIT" in letters at least 1.95 inches (5 cm) high, of a color that contrasts with its background. The labeling must be located on an inside surface of the exit, or within 11.7 inches (30 cm) of the roof exit opening. Concise operating instructions describing the motions necessary to unlatch and open the emergency exit shall be located within 5.85 inches (15 cm) of the release mechanism. These instructions shall be in letters at least .39 inches (1 cm) high and of a color that contrasts with its background. (49 CFR 571.217)

REJECT VEHICLE IF:

Lettering does not meet requirements.

d) LIGHTS

1) Back Up

PROCEDURES/SPECIFICATIONS:

Two white lights shall be provided. Must meet federal standards. (49 CFR 571.108)

Exception: All buses purchased prior to September 1974 are exempt; however, for any unit equipped with back up lamps, they must be operational.

REJECT VEHICLE IF:

Back up lights do not function; illegal color; broken lens.

2) Clearance,
Front

PROCEDURES/SPECIFICATIONS:

Two clearance lights (amber) at highest and widest portions of the body. Must conform to federal standards. (49 CFR 571.108) May be combined with side marker lamp.

Exception: *Buses less than 80 inches wide or 25 feet long are exempt.* (Section 12-202(a) of the Illinois Vehicle Equipment Law)

REJECT VEHICLE IF:

Front clearance lights do not function; improper color; broken lens.

3) Clearance,
Rear

PROCEDURES/SPECIFICATIONS:

Two clearance lights (red) mounted at highest and widest parts of body. Must conform to federal standards. (49 CFR 571.108)

Exception: *Buses less than 80 inches wide are exempt.* (49 CFR 571.108)

REJECT VEHICLE IF:

Rear clearance lights do not function; improper color; broken lens.

- 4) Identification,
Front

PROCEDURES/SPECIFICATIONS:

Three amber lights mounted at center front near top of body above "SCHOOL BUS" sign. Must conform to federal standards. (49 CFR 571.108)

Exception: *Buses less than 80 inches wide are exempt.* (49 CFR 571.108)

REJECT VEHICLE IF:

Front cluster lights do not function properly; improper color; broken lens.

- 5) Identification,
Rear

PROCEDURES/SPECIFICATIONS:

Three red lights mounted at center rear near top of body either above or below "SCHOOL BUS" sign. Must conform to federal standards. (49 CFR 571.108)

Exception: *Buses less than 80 inches wide or 25 feet long are exempt.* (Section 12-202 (a) of the Illinois Vehicle Equipment Law)

REJECT VEHICLE IF:

Rear cluster lights do not function properly; improper color; broken lens.

- 6) Flashing
Lights

PROCEDURES/SPECIFICATIONS:

All school buses shall be equipped with an eight light flashing signal system with two red and two amber flashing signal lamps mounted above windshield spaced no less than three feet apart and at same horizontal level. The rear of the vehicle shall be equipped with two red and two amber flashing signal lamps mounted and spaced no less than three feet apart and at same

horizontal level. Minimum diameter 5 1/2 inches sealed beam.
(Section 12-805 of the Illinois Vehicle Equipment Law)

The red lights shall be located on the outside perimeters of the bus and the yellow lights must be located between the red lights towards the center.

A separate circuit breaker and a master switch shall be provided for this signal system. When in its "off" position this master switch shall prevent the following:

- A) Operation of the 8 lamp system;
- B) Operation of any lamps mounted on the stop signal arm; and
- C) Operation of any electrically controlled mechanism that would cause the stop signal arm to extend.

The controls for the eight lamp flashing signals, the stop signal arm and the service entrance door shall be arranged so as to provide for the following sequence of operations while the engine is running.

- A) Place the alternately flashing signal system master switch in its "off" position. Close and secure the service entrance door. Actuate the alternately flashing signal system hand or foot control. The alternately flashing signal lamps of either yellow (amber) or red color shall not go on.
- B) With the master switch "off" and the hand or foot control actuated, open the service door. The alternately flashing signals of either color shall not go on and the stop signal arm shall not extend.
- C) Deactivate the hand or foot control. Place the alternately flashing signal system master switch in its "on" position. Close and secure the service door. Open the service door. The alternately flashing signal lamps of either color shall not go on and stop signal arm shall not extend.
- D) Close and secure the service door. Actuate the alternately flashing signal system by hand or foot control. A yellow pilot lamp in the view of the driver and the yellow alternately flashing signals shall go on.
- E) Desecure but do not open the service door. The yellow pilot and the yellow alternately flashing signals shall go off. A red pilot lamp in the view of the driver and the red

alternately flashing signals shall go on. The stop signal arm shall extend.

- F) Fully open the service door. The red pilot and red signals shall remain on and the stop arm shall remain extended.
- G) Close but do not secure the service door. The red pilot and red signals shall remain on and the stop arm shall remain extended.
- H) Open the service door. The red pilot and red signals shall remain on and the stop arm remain extended.
- I) Close and secure the service door. The red pilot and red signals shall go off and the stop arm shall retract.
- J) Open the service door. Alternately flashing signals of either color shall not go on and the stop arm shall not extend.

REJECT VEHICLE IF:

Flashing lights do not function properly; broken lens or improper lens color. Pilot lights do not function.

7) Headlights

PROCEDURES/SPECIFICATIONS:

Shall have at least two headlamps with at least one mounted on each side of the front of the bus. Lamp body must be securely attached. Lenses, reflectors, bulbs, etc., must be in good condition, properly aimed and fill required intensity. Check for bulb burnout. Verify high and low beams are functioning. Shall conform to federal standards. (49 CFR 571.108)

REJECT VEHICLE IF:

Headlights do not meet requirements. High beam/low beam do not function.

8) Interior

PROCEDURES/SPECIFICATIONS:

Adequate to illuminate aisles, step well, and emergency passageways.

REJECT VEHICLE IF:

Interior lights do not provide adequate lighting; cracked or broken lenses; improper color.

9) License Plate

PROCEDURES/SPECIFICATIONS:

Adequate white light to illuminate license plate. (49 CFR 571.108) May be combined with one of the tail lights.

REJECT VEHICLE IF:

License plate light does not provide adequate lighting; cracked or broken lenses; improper color.

10) Parking
Lights

PROCEDURES/SPECIFICATIONS:

Shall be one lamp on each side; white or amber color. (49 CFR 571.108)

All buses 80 or more inches in overall width which are equipped with side marker lamps, clearance lamps, and intermediate side marker lamps are exempt from having parking lights. However, if vehicle is equipped with parking lights, they must be operational. (49 CFR 571.108)

REJECT VEHICLE IF:

Parking lights do not meet requirements; improper color; cracked or broken lenses.

11) Sidemarker, Left

PROCEDURES/SPECIFICATIONS:

Two lamps: one amber at front and one red at rear, mounted as high as practicable. Shall conform to federal standards. (49 CFR 571.108)

Exception: A bus manufactured in August 1974 or earlier is exempt.

REJECT VEHICLE IF:

Left marker lights do not meet requirements; do not function properly; improper color; cracked or broken lenses.

12) Sidemarker, Right

PROCEDURES/SPECIFICATIONS:

Two lamps: one amber at front and one red at rear, mounted as high as practicable. Shall conform to federal standards. (49 CFR 571.108)

Exception: A bus manufactured in August 1974 or earlier is exempt.

REJECT VEHICLE IF:

Right marker lights do not meet requirements; improper color; cracked or broken lenses.

13) Step Well

PROCEDURES/SPECIFICATIONS:

At least the nosings of the service entrance steps and the floor around the stepwell shall be automatically illuminated with white light when the ignition is on and the service door is open.

No lamp shall be installed so as to shine directly into the eyes of a pupil moving through the service entrance and looking at the service steps.

Exception: On a bus with chassis (incomplete vehicle) manufactured in March 1977 or earlier, a stepwell light that does not illuminate all the step nosings or does not illuminate the floor around the service entranceway may be used.

REJECT VEHICLE IF:

Step well light does not meet requirements; improper color; cracked or broken lenses.

14) Stop

PROCEDURES/SPECIFICATIONS:

Two red lights mounted at same height and as high as practicable below window line. Seven inch minimum diameter or 19 square inches. Not less than three feet apart laterally. Must conform to federal standards. (49 CFR 571.108)

For buses manufactured on or after September 1, 1993 with an overall width of less than 80 inches, a high mounted stop lamp is required (may be two lamps).

REJECT VEHICLE IF:

Stop lights do not meet requirements; improper color; cracked or broken lenses; do not function properly.

15) Strobe

(optional)

PROCEDURES/SPECIFICATIONS:

If installed, lamp must comply with following requirements:

- A) *One per bus;*
- B) *Shall emit white or bluish/white light;*
- C) *Shall be visible from any direction;*
- D) *Shall flash 60 to 120 times per minute;*
- E) *Shall be visible in normal sunlight;*
- F) *Mounted at or behind center of rooftop and equal distance from each side. (Section 12-815 of the Illinois Vehicle Equipment Law)*

Distance from rear will be calculated by measuring height of filament and multiplying same by 30 inches (i.e., filament height x 30 = distance from rear of bus where lamp is to be located).

REJECT VEHICLE IF:

If installed, strobe does not meet installation requirements; does not function properly; improper color; cracked or broken lenses.

Shielding is present.

16) Tail

PROCEDURES/SPECIFICATIONS:

Two red lights mounted with centers not less than 40 inches nor more than 50 inches from surface on which vehicle stands. Must conform to federal standards. (49 CFR 571.108)

REJECT VEHICLE IF:

Tail lights do not meet requirements; do not function properly; improper color; cracked or broken lenses.

17) Turn
Signal,
Left
(armored)

PROCEDURES/SPECIFICATIONS:

"Armored" type amber clearance lamp mounted behind driver's seat. Functions with regular turn signal.

Exception: All buses purchased prior to September 1974 are exempt from having left armored turn signals.

Exceptions: Buses with capacity rating of less than 33 passengers are exempt. Buses manufactured in August 1974 or earlier are exempt. Buses that measure less than 80 inches wide or 20 feet long are exempt.

REJECT VEHICLE IF:

Left turn signal does not meet requirements; does not function properly; improper color; cracked or broken lenses.

18) Turn
Signal,
Right
(armored)

PROCEDURES/SPECIFICATIONS:

"Armored" type amber clearance lamp mounted at approximately seat level and rub rail height just to rear of service door. Functions with regular turn signal lamps.

Exception: All buses purchased prior to September 1974 are exempt from having right armored turn signals.

Exceptions: Buses with capacity rating of less than 33 passengers are exempt. Buses manufactured in August 1974 or earlier are exempt. Buses that measure less than 80 inches wide or 20 feet long are exempt.

REJECT VEHICLE IF:

Right turn signal does not meet requirements; does not function properly; improper color; cracked or broken lenses.

19) Turn
Signal,
Front

PROCEDURES/SPECIFICATIONS:

One amber or white lens on each side, at or near the front, at the same height and as far apart as practicable. Must meet federal standard 49 CFR 571.108.

Operate turn signals and four-way warning hazards to check performance of front and rear lights.

REJECT VEHICLE IF:

Front turn signal does not meet requirements; does not function properly; improper color; cracked or broken lenses.

Four-way warning hazards do not operate properly.

20) Turn
Signal,
Rear

PROCEDURES/SPECIFICATIONS:

One red or amber lens on each side at the same height and as far apart as practicable below window. Must meet federal standard 49 CFR 571.108.

REJECT VEHICLE IF:

Rear turn signal does not meet requirements; improper color; does not function properly; cracked or broken lenses.

e) LOCKED
COMPARTMENT

PROCEDURES/SPECIFICATIONS:

Fire extinguisher, first-aid kit, and warning devices may be stored either in a closed, unlocked compartment or under lock and key, provided the locking device is connected with an automatic warning signal that will alert driver when compartment is locked. The automatic alarm shall be both audible and visible to the seated driver. The alarm shall alert the driver when the engine is running and the compartment is locked and cannot be readily opened without using a tool, key, or combination. An alarm cut-off or "squelch" control is prohibited.

Each safety item inside the compartment shall be named on the outside of the compartment cover, or door. In addition, a RED CROSS formed of five equal squares shall be displayed on the cover when the first aid kit is inside the compartment.

Exception: A bus with chassis manufactured in March 1977 or earlier need not have a visible alarm.

REJECT VEHICLE IF:

Locked compartment is not readily accessible to driver; lettering or identification missing; alarm does not function properly when compartment is locked and vehicle is running.

(Source: Amended at 22 Ill. Reg. 15371, effective August 7, 1998)

Section 443.APPENDIX H Mirrors through Rub Rails

a) MIRRORS

PROCEDURES/SPECIFICATIONS:

Every required mirror shall be of reflecting material protected from abrasion, scratching, and corrosion. Mirror shall be firmly installed on stable supports so as to give a clear, stable, reflected view. Mirrors must meet all requirements of 49 CFR 571.111 to provide the required field of view.

Convex crossover mirrors can be combined with either the right or left side safety mirrors provided the convex mirror meets the field of view and size requirements established in this subsection or in 49 CFR 571.111.

REJECT VEHICLE IF:

Mirrors do not meet requirements; defective; excessively clouded; not securely attached; cracked or broken glass.

1) Exterior

A) Rear
View
Driving

PROCEDURES/SPECIFICATIONS:

Shall be mounted outside on the left and right sides of the bus. Must give seated driver a view to the rear along each side of the bus. Must be at least 50 square inches of usable flat rectangular reflecting surface on each side. (49 CFR 571.111)

If the rear view driving mirror does not provide the required field of view, a convex driving mirror must be installed to expand the driving view to the rear. However, the usable flat reflecting surface must be rectangular and must maintain at least 50 square inches.

REJECT VEHICLE IF:

Rear view driving mirror does not meet requirements; defective; excessively clouded; not adjustable; not securely attached; cracked or broken glass.

B) Right
Side
Safety

PROCEDURES/SPECIFICATIONS:

An outside convex mirror, either alone or in combination with the crossover mirror system, shall give the seated driver a view of the roadway along the right side of the bus between the most forward surface of the right front tire and the rear of the rear bumper. The projected reflecting surface of this convex mirror shall be at least 40 square inches (7 1/8 inches diameter if a circle).

Extra-wide-angle convex mirror heads are permissible on right front corner only.

Exception: A right safety mirror is optional on a bus manufactured in August 1974 or earlier.

REJECT VEHICLE IF:

Right side safety mirror does not meet requirements; defective; excessively clouded; not securely attached; cracked or broken glass.

C) Left
Side
Safety
(Optional)

PROCEDURES/SPECIFICATIONS:

A convex mirror is required if the left rear view driving mirror system does not give the seated driver a reflected view of the roadway along the left side of the bus between the front edge of the driver's seat (in most forward position) and the rear of the rear bumper. The convex mirror shall be installed so that either alone or in combination with the rear view driving mirror gives the seated driver the proper view.

Exception: A left safety mirror is optional on a bus with chassis manufactured in March 1977 or earlier.

REJECT VEHICLE IF:

Left side safety mirror does not meet requirements; defective; excessively clouded; not securely attached; cracked or broken glass.

D) Crossover

PROCEDURES/SPECIFICATIONS:

An outside convex mirror shall give the seated driver a view of the front bumper and the area of roadway in front of the bus. The projected reflecting surface of this mirror shall be at least 40 square inches (7 1/8 inch diameter if a circle). (49 CFR 571.111)

Exception: If the seated driver of a forward control bus has a direct view of the front bumper and the area of roadway in front of the bus, a crossover mirror is optional.

REJECT VEHICLE IF:

Crossover mirror does not meet requirements; defective; excessively clouded; not adjustable; not securely attached; cracked or broken glass.

2) Interior

PROCEDURES/SPECIFICATIONS:

All buses purchased during and after September 1974 must have a clear view safety glass mirror, metal backed and framed with rounded corners and edges which shall be padded. Shall afford a good view of the interior and roadway to the rear.

All buses purchased prior to September 1974 must have a rear view mirror.

REJECT VEHICLE IF:

Interior mirror does not meet requirements; defective; excessively clouded; not adjustable; not securely attached; cracked or broken glass.

b) PAINT
REQUIREMENTS

PROCEDURES/SPECIFICATIONS:

The exterior of the body, excluding required rub rail and lettering, shall be painted a uniform color: National School Bus Glossy Yellow. Required rub rail and lettering must be black. Additional rub rails may either be black or yellow. The front and rear bumpers and wheels may be black or manufacturer's colors. Grilles and hub caps may be a bright finish (chrome, anodized aluminum, etc.). Roofs may be white. (Section 12-801 of the Illinois Vehicle Equipment Law)

For buses manufactured on or after May 2, 1994, each opening for a required emergency exit must be outlined around its outside perimeter with a minimum 1 inch (2.54 cm.) wide yellow retroreflective tape. This yellow retroreflective tape must be on the exterior surface of the bus. Required yellow retroreflective tape can be located on the rear bumper provided the space between the top of the bumper and bottom of the door is not adequate to accommodate the tape.(49 CFR 571.217)

Optional: A white roof may extend only to within 6 inches above the drip rails on the sides of the body. The front and rear roof caps shall remain National School Bus Glossy Yellow.

Optional: Black area around flashing lights is permitted. Black area must not interfere with "SCHOOL BUS" lettering.

Optional: Reflectorized tape is permitted provided it reflects the same color that is applied to and cannot be located on any bumper unless the bus was manufactured on or after May 2, 1994 (see above paragraph).

Exception: Hoods may be lusterless black or lusterless school bus yellow.

REJECT VEHICLE IF:

Paint does not meet color requirements; paint in poor condition (i.e., faded, peeling or rusted).

Optional black area around flashers interferes with required lettering.

Optional or required reflectorized tape does not meet color requirements.

c) PROJECTIONS

1) Exterior

PROCEDURES/SPECIFICATIONS:

Entire rear of bus must be nonhitchable.

Exceptions: A bus manufactured in October 1978 or earlier is exempt from nonhitchable bumpers. A bus manufactured in August 1974 or earlier is exempt from nonhitchable projections. Every school bus, however, must have a nonhitchable door handle.

REJECT VEHICLE IF:

Exterior projections do not comply with nonhitchable projection requirements.

2) Interior

PROCEDURES/SPECIFICATIONS:

Interior shall be free of all dangerous projections.

Optional equipment (e.g., video camera) that is located in the bulkhead area of the bus and not flush with the interior walls must meet the following requirements:

- A) Must not interfere with occupant's entering or exiting the bus.
- B) Must not be located in driver's head impact zone.
- C) Must not obstruct required lettering.

Additional projections (e.g., external speakers, air conditioners) located within 59 inches from the floor shall be padded to prevent injury. This includes inner lining of ceiling and walls. Installation of book racks is not permissible.

Exception: All buses purchased prior to September 1974 may be equipped with book racks. However, if book racks are present, they shall be above side windows and shall not extend

forward of the front seat or across or above the emergency door. Racks must be free of projections likely to cause injury.

Exception: All buses purchased prior to September 1974 are exempt from padding on interior projections.

REJECT VEHICLE IF:

Optional equipment in bulkhead does not meet requirements.

Remaining interior projections are not padded (e.g., external speakers). Book racks are present.

Flush mounted speakers are exempt from padding requirements.

For buses purchased prior to September 1974, book racks do not meet requirements.

d) REFLECTORS

1) Front

PROCEDURES/SPECIFICATIONS:

Two yellow rigid or sheet type (tape) front reflex reflectors shall be attached securely and as far forward as practicable.

(Section 12-202 of the Illinois Vehicle Equipment Law) They shall be located between 15 and 60 inches above the roadway at either fender, cowl, or body and installed so as to mark the outer edge of the maximum width of the bus. No part of the required reflecting material may be obscured by a lamp, mirror, bracket, or any other portion of the bus. No part of the required reflecting material may be more than 11.8 inches (300 mm) inboard of the outer edge of the nearest rub rail (12 inches on a bus with chassis manufactured in March 1977 or earlier). The reflector may be any shape (e.g., square, rectangle, circle, oval, etc.). A rigid type reflex reflector may be any size if permanently marked either DOT, SAE A, or SAE J 594; otherwise, it shall display at least seven square inches of reflecting material (about 3 inch diameter if a solid circle).

A sheet type (tape) reflex reflector may conform to the surface on which it is installed but its forward projected reflecting area shall be at least eight square inches.

Exception: *Buses that measure 80 inches wide or less or that measure 25 feet long or less are exempt.* (Section 12-202(a) of the Illinois Vehicle Equipment Law)

REJECT VEHICLE IF:

Missing or damaged reflective material; not located or positioned as required.

2) Left Side

PROCEDURES/SPECIFICATIONS:

One amber at or near the front and one red at or near the rear. Mounted at a height not less than 15 inches and not more than 60 inches above the surface of the road. On sides of buses 20 feet or more in length, one amber as near center as practicable must also be provided. (Section 12-202 of the Illinois Vehicle Equipment Law) Minimum three inches in diameter.

REJECT VEHICLE IF:

Missing or damaged reflective material; not located or positioned as required.

3) Right Side

PROCEDURES/SPECIFICATIONS:

One amber at or near the front and one red at or near the rear. Mounted at a height not less than 15 inches and not more than 60 inches above the surface of the road. On sides of buses 20 feet or more in length, one amber as near center as practicable must also be provided. (Section 12-202 of the Illinois Vehicle Equipment Law) Minimum three inches in diameter.

REJECT VEHICLE IF:

Missing or damaged reflective material; not located or positioned as required.

4) Rear

PROCEDURES/SPECIFICATIONS:

Two red reflectors on rear body within 12 inches of lower right and lower left corners. (Section 12-202 of the Illinois Vehicle Equipment Law) Minimum three inches in diameter.

Exception: Buses that measure 80 inches wide or less or that measure 25 feet long or less are exempt. (Section 12-202(a) of the Illinois Vehicle Equipment Law)

REJECT VEHICLE IF:

Missing or damaged reflective material; not located or positioned as required.

e) RUB RAILS

PROCEDURES/SPECIFICATIONS:

There shall be one rub rail located approximately at seat level which shall extend from the rear of the entrance door on both

sides, except at functioning doors, to a point of curvature at the rear of the body. Rub rails shall be constructed of 16-gauge longitudinally corrugated or ribbed steel, ventilated four inches minimum width, and securely fastened to the body by bolts, rivets, or welding.

Rub rails are not required on Type II service and driver's entrance doors; however, if installed, they must meet same requirements as above.

REJECT VEHICLE IF:

Rub rails are missing; not firmly attached; incorrect color; or incorrect number of rails.

(Source: Amended at 22 Ill. Reg. 15371, effective August 7, 1998)

Section 443.APPENDIX I Seat Belts through Steps

a) SEAT BELTS

PROCEDURES/SPECIFICATIONS:

A seat belt shall be installed for the driver. (Section 12-807 of the Illinois Vehicle Equipment Law)

Seat belts shall be installed for each pupil as required by 49 CFR 571.222. At all times, each seat belt shall be readily available for quick and easy use. If retractors are installed, they shall be the automatic locking type. Each belt assembly shall be clean. Belt material, buckle, tongue, etc., of each driver's belt shall remain above floor when not in use.

Exception: On a bus with incomplete vehicle (chassis) manufactured in March 1977 or earlier, pupil belts are not required.

Exception: On a bus manufactured in August 1974 or earlier, driver's belts, etc., need not remain above floor.

REJECT VEHICLE IF:

Seat belts are not secured, not adjustable, cracked, broken, frayed, torn or dirty. Retractor or buckle does not operate properly.

b) SEAT, DRIVER'S

PROCEDURES/SPECIFICATIONS:

The driver's seat shall be rigidly positioned and have a forward and backward adjustment without the use of tools or other nonattached devices.

Seat padding and covering shall be in good condition (i.e., free from holes and tears). Seat cushions shall be securely fastened to the seat frame.

REJECT VEHICLE IF:

Driver's seat is not securely anchored to floor; in poor condition; adjustment mechanism does not function properly.

c) SEATS, PASSENGER

PROCEDURES/SPECIFICATIONS:

For buses purchased after September 1974 all seats shall have a minimum depth of 14 inches and a minimum back rest height of 20 inches with a 13 inch allowable average hip room in determining seating capacity. All seats shall be forward facing and securely fastened to part or parts of bus which support them. No bus shall be equipped with jump seats or portable seats (does not include child restraint systems). The center-to-center seat spacing shall be no more than 24 inches, measured from the seating reference point to the seat back or guard barrier in front of the seat. Padding and covering shall be of fire resistant material. Minimum 36 inch headroom for sitting position above top of undepressed cushion line on all seats (measured vertically not more than seven inches from side wall at cushion height and at front and rear center of cushion). Backs of all seats of similar size shall be of the same width at top and the same height from floor and shall slant at the same angle with the floor. The top and side rails and seat backs shall be padded to cushion level. Seat padding and covering shall be in good condition (i.e., free from holes and tears). Seat cushions shall be securely fastened to the seat frame. (49 CFR 571.222)

Exception: All buses purchased prior to September 1974 and after January 1, 1972, shall have a seating plan for 16 pupils consisting of four rows of 30 inch forward facing seats with a minimum 12 inch aisle down the center. No jump or portable seats allowed. No seat or other object placed in the bus which restricts passageway to emergency door to less than 12 inches.

Exception: Those vehicles used as a school bus by school districts and private contractors prior to January 1, 1972, and are still in their possession that had previously passed a school bus safety inspection can still be utilized if they continue to meet the inspection requirements that were in effect at that time. These vehicles will not have to be brought up to the above standards.

A flip-up seat may be located only adjacent to any side emergency door. For buses manufactured on or after September 1, 1994, the flip-up seat must conform to the following:

- 1) The seat must be designed so that, when in the folded position, the seat cushion is flat against the seat back to prevent a child's limb from becoming lodged between the seat cushion and seat back.
- 2) The seat must be designed to discourage a child from standing on the seat cushion when in the folded position.
- 3) The working mechanism under the seat must be covered to eliminate any tripping hazard.
- 4) All sharp metal edges on the seat must be padded to prevent any snagging hazard.
- 5) No portion of the door latch mechanism can be obstructed by a seat.
- 6) There must be at least 11.7 inches (30 cm) measured from the door opening to the seat back in front. (49 CFR 571.217)

REJECT VEHICLE IF:

Passenger seats are not firmly attached to body; broken frame; cushions not firmly attached; padding and covering not fire resistant. Padding or covering is loose, in poor condition, or missing; seats are torn or have holes; minimum seat dimensions or seat spacing is not in compliance.

d) STEERING
SYSTEM

1) Exterior

A) King
Pins

PROCEDURES/SPECIFICATIONS:

Raise vehicle so as to unload kingpins (brakes should be applied to eliminate wheel bearing looseness). Either grasp wheel at top and bottom or use a bar for leverage. Attempt to rock wheel in and out. Check movement at extreme top or bottom of tire. If movement exists, place a dial indicator, tape measure, or a fixed device at the wheel and measure amount of movement.

Place leverage bar under tire. Raise bar to check for vertical movement between spindle and support axle.

REJECT VEHICLE IF:

Wheel bearing movement exceeds 1/4 inch; or kingpin movement exceeds:

<u>Wheel size</u>	<u>Max allowed</u>
16" or less	1/4"
16.1" to 18"	3/8"
over 18"	1/2"

B) Linkage

PROCEDURES/SPECIFICATIONS:

For buses with single "I" beam or tube type front axle, hoist bus under axle. For buses with twin "I" beam type front axles or with "A frame" control arms, each axle or arm must be hoisted independently so as to load the ball joints. Grasp front and rear of tire and attempt to shake assembly right and left to determine linkage looseness. Measure movement of wheel.

Inspect for damage to or looseness in the following linkage components:

- i) Ball Joints
- ii) Cotter Pins
- iii) Drag Link
- iv) Idler Arm
- v) Pitman Arm
- vi) Steering Box
- vii) Tie Rod
- viii) Tie Rod Ends

REJECT VEHICLE IF:

Measurement is found to be in excess of:

<u>Rim Diameter</u>	<u>Maximum Allowable Movement</u>
16" or less	1/4"
17" and 18"	3/8"
over 18"	1/2"

Any linkage component is bent; welded; loose; insecurely mounted or missing.

C) Power
Steering

PROCEDURES/SPECIFICATIONS:

Manually and visually inspect:

- i) Belts
- ii) Cylinders
- iii) Fluid Level
- iv) Hoses
- v) Mounting Brackets
- vi) Power Assist
- vii) Pump

REJECT VEHICLE IF:

Steering components are:

- i) Loose, frayed, cracked, missing; incorrect belts
- ii) Loose and/or leaking
- iii) Low fluid level
- iv) Cracked, leaking, rubbed by moving parts
- v) Cracked, loose, or broken
- vi) No assist is evident
- vii) Loose, leaking.

D) Toe-In/
Toe-Out

PROCEDURES/SPECIFICATIONS:

With wheels held in a straight ahead position, drive vehicle slowly over the approved drive-on side slip indicator.

Excessive toe-in or toe-out is a general indication that complete check should be made of all front wheel alignment factors (caster, camber, steering axis inclination).

REJECT VEHICLE IF:

More than 30 feet per mile on the approved side slip indicator.

E) Wheel
Bearings

PROCEDURES/SPECIFICATIONS:

With the front end of the vehicle lifted so as to load any ball joints, grasp the front tire top and bottom, rock it in and out. Record movement. To verify that any looseness detected is in the wheel bearing, notice the relative movement between the brake drum or disc and the backing plate or splash shield.

AGENCY NOTE:

Wheel bearing play can be eliminated by applying service brakes.

REJECT VEHICLE IF:

Relative movement between drum and backing plate, measured at tire, is 1/4 inch or more.

2) Interior

A) Column

PROCEDURES/SPECIFICATIONS:

Inspect to determine that column support bracket is properly tightened and all bolts are present.

REJECT VEHICLE IF:

Column support bracket is not properly tightened or bolts are missing.

B) Lash

PROCEDURES/SPECIFICATIONS:

With road wheels in straight ahead position, turn steering wheel until a turning movement can be observed at the left road wheel. Slowly reverse steering wheel motion and measure lash.

REJECT VEHICLE IF:

Lash exceeds following acceptable limits:

Steering wheel maximum diameter (inches)	Acceptable lash (inches) measured at <u>maximum circumference</u>
16 or less	2
18	2 1/4
20	2 1/2
22	2 3/4

C) Shaft

PROCEDURES/SPECIFICATIONS:

Grasp steering wheel with both hands and attempt to move shaft up and down.

REJECT VEHICLE IF:

Steering shaft moves up and down.

D) Steering
Wheel

PROCEDURES/SPECIFICATIONS:

Inspect steering wheel condition.

REJECT VEHICLE IF:

Steering wheel is damaged. Any spokes are missing or reinforcement ring is exposed.

E) Travel PROCEDURES/SPECIFICATIONS:

Turn steering wheel through a full right and left turn checking for binding, jamming and complete travel left and right.

REJECT VEHICLE IF:

Binding or jamming is present. Does not complete full turn from left to right. Tire rubs on fender or frame during turn.

e) STEPS

PROCEDURES/SPECIFICATIONS:

The first service entrance step shall be no more than 13 1/2 inches off the ground. If necessary, a step of adequate width and length shall be installed to meet this requirement. Provision shall be made to prevent road splash from the wheel from accumulating on the step if installed outside the body.

Risers shall be approximately equal in height, upper risers no more than 12 inches in height.

The surface entrance steps shall have a nonskid material applied. A 1 1/2 inch to three inch white nosing is required on the floor at the top riser.

REJECT VEHICLE IF:

Steps or risers are not solid. Steps, risers or nonskid material covering is missing, loose, or not in good condition. White nosing is missing or in poor condition.

(Source: Amended at 22 Ill. Reg. 15371, effective August 7, 1998)

Section 443.APPENDIX J Stop Signal Arm Panel through Trash Container (Optional)

a) STOP SIGNAL
ARM PANEL

PROCEDURES/SPECIFICATIONS:

A stop signal arm panel must be installed on the left side of the bus and may be operated either manually or mechanically. Decals may be used in lieu of painting.

Buses manufactured on or after September 1, 1992 must be equipped with an octagon-shaped semaphore which meet the requirements listed below under "Octagon."

Buses manufactured prior to September 1, 1992 may either be equipped with an octagon-shaped semaphore which meets the requirements listed below under "Octagon" or a hexagon

shaped semaphore which meets the requirements listed below under "Hexagon."

Octagon - The arm shall be an octagon-shaped semaphore which measures at least 450 mm x 450 mm (17.72 inches x 17.72 inches) in diameter. The arm shall be red on both sides with a white border at least 12 mm (.47 inches) wide on both sides. The arm shall have the word "STOP" displayed in white uppercase letters on both sides. The letters shall be at least 150 mm (5.9 inches) in height and have a stroke width of at least 20 mm (.79 inches).

The stop signal arm shall comply with either (a) or (b) below:

- i) The entire surface of both sides of the arm can be reflectorized to meet 49 CFR 571.131; or
- ii) Each side of the arm shall have at least two red lamps centered on the vertical centerline of the stop arm. One lamp shall be located at the extreme top of the arm and the other at its extreme bottom. The lamps shall light and flash alternately when stop signal arm is extended and likewise turn off and stop flashing when arm is closed. (49 CFR 571.131) (See Section 443.Illustration A for examples.)

Hexagon - The arm shall be a hexagon shaped semaphore approximately 18 inches wide and 18 inches long and of 16 gauge metal. The stop signal arm panel shall have the "STOP" painted on both sides in white letters at least six inches high with a brush stroke approximately 7/8 inch wide. The word "STOP" shall be painted on a panel with red background of approximately 8 inches by 16 inches. Remaining area of stop signal arm blade is to be painted white with a band of white border at least 1/2 inch wide painted from front and rear on both sides as contrast. White portion of stop arm signal shall be reflectorized or shall have double-faced lamps with red lens approximately four inches in diameter located in the top and bottommost position of the blade. These lamps shall light and flash alternately when stop arm is extended and likewise turn off and stop flashing when arm is closed. (Section 12-803 of the Illinois Vehicle Equipment Law) (See Section 443.Illustration A for examples.)

Optional: Strobe lamps are acceptable on stop arm panels.

Optional: Additional stop signal arm panels must be located on the left side of the bus. Additional panels must operate in conjunction with the required panel and meet all stop signal arm panel requirements except as follows. The additional panel must not contain any lights, markings or reflective material on

the forward side of the panel. The additional panel must be located in the rear half of the bus adjacent to the rearmost window.

REJECT VEHICLE IF:

Stop signal arm panel is in poor condition (i.e., faded, peeling, or rusted); lights do not operate properly (if installed); is not securely attached; is not operating properly; does not meet requirements; is missing.

b) STORAGE
COMPARTMENT
(optional)

PROCEDURES/SPECIFICATIONS:

Covered, fire-resistant container securely fastened of adequate strength and capacity for tire chains and tools for minor emergency repairs.

REJECT VEHICLE IF:

If installed, storage compartment does not meet requirements.

c) SUN VISOR

PROCEDURES/SPECIFICATIONS:

Shall be interior, adjustable and not less than five inches by 16 inches. Must be installed above windshield.

Not required to be transparent, but must not interfere with view of interior rear view mirror.

REJECT VEHICLE IF:

Sun visor does not meet requirements.

d) SUSPENSION

1) Shocks

PROCEDURES/SPECIFICATIONS:

Equipped with front and rear heavy-duty, double acting shock absorbers.

REJECT VEHICLE IF:

Shocks are missing, broken, or have severe leakage (not slight dampness) occurs. Mounting bolts or mounts are broken or loose, or rubber bushing is partially or completely missing.

2) Springs

A) Coil

PROCEDURES/SPECIFICATIONS:

Visually inspect:

- i) Spring
- ii) Control arms
- iii) Torque arms (rear)

REJECT VEHICLE IF:

Coil is missing, disconnected, broken, loose bushings, welded or damaged.

B) Leaf

With use of a pry bar and using frame as a pivot, attempt to pry front and rear spring attachments and check for movement. Front of vehicle must be jacked up on chassis for checking front suspension. Visually inspect:

- i) Springs
- ii) Shackles
- iii) Hangers
- iv) U-bolts
- v) Center bolts
- vi) Bushings or pivot

REJECT VEHICLE IF:

Springs are missing or broken. Shackles or "U" bolts worn or loose. Center bolt in springs sheared or broken. Steering stops allow tire to rub on frame or metal.

Any leaves are cracked or missing. Any shackle, shackle pins, hangers, or "U" bolts are worn, loose, or missing.

C) Torsion

Bar (Stabilizer Bar)

PROCEDURES/SPECIFICATIONS:

Visually inspect:

- i) Torsion bar
- ii) Mounting brackets
- iii) Control arms
- iv) Torque arms (if applicable - rear)
- v) Stabilizer bar(s) (if applicable)

REJECT VEHICLE IF:

Torsion bar missing, disconnected, broken, loose, welded, or damaged.

e) TOW HOOKS
(optional)

1) Front

PROCEDURES/SPECIFICATIONS:

A front tow hook must not extend beyond the front of the front bumper. Each front tow hook not fastened securely to the chassis frame shall be connected to the frame by suitable braces.

REJECT VEHICLE IF:

Tow hook(s) extend beyond bumper; not securely attached.

2) Rear

PROCEDURES/SPECIFICATIONS:

Any tow hook(s) installed on the rear shall be attached or braced to the chassis frame or to an equivalent structural member of an integral type bus. A tow hook must not extend beyond the rear face of the rear bumper.

REJECT VEHICLE IF:

Tow hook(s) extend beyond bumper; not securely attached.

f) TRASH CONTAINER
(optional)

PROCEDURES/SPECIFICATIONS:

A trash container may be present. If present, it must be securely stored in the vehicle and must not obstruct any aisle.

REJECT VEHICLE IF:

Optional trash container does not meet requirements.

(Source: Amended at 22 Ill. Reg. 15371, effective August 7, 1998)

Section 443.APPENDIX K Undercoating through Windshield Wipers

a) UNDERCOATING

PROCEDURES/SPECIFICATIONS:

Fire resistant undercoating material applied by spray. Entire underside of body, front fenders, floor members and side panels below floor level must be covered.

REJECT VEHICLE IF:

Undercoating does not meet requirements.

b) VENTILATION

PROCEDURES/SPECIFICATIONS:

Body must be equipped with ventilating system capable of supplying proper quantity of air under operating conditions.

REJECT VEHICLE IF:

Air is obstructed; not securely fastened; not covered.

c) WARNING
DEVICES

PROCEDURES/SPECIFICATIONS:

Either three red cloth flags not less than 12 inches square and three red reflectors minimum of 3 inches in diameter or three bi-directional emergency triangles that conform to 49 CFR 571.125. (Section 12-702 of the Illinois Vehicle Equipment Law) Kit shall be securely stored.

REJECT VEHICLE IF:

Required warning devices are not present or are in poor condition.

d) WHEELS

1) Housings

PROCEDURES/SPECIFICATIONS:

Full open type attached to floor sheet to prevent water, fumes or dust entering the body. Inside height should not exceed 10 inches above floor line. Housings shall allow for unimpeded wheel and tire service or removal. Housing shall provide clearance for installation and use of tire chains on the dual or single tires installed on the rear wheels.

Inspect tire and road wheel assemblies.

REJECT VEHICLE IF:

Wheel housings do not meet clearance requirement; wheel housings are not firmly secured; holes are present.

A tire or wheel is rubbing against any portion of the suspension, chassis, or body.

2) Rim

PROCEDURES/SPECIFICATIONS:

Inspect all wheel and rim bolts, nuts, studs, lugs, locking rings, etc. Each cover, cap, or decorative ring that obscures any of these items must be removed prior to the inspection.

Inspect for visible wheel damage.

REJECT VEHICLE IF:

Any wheel or rim securing device such as a nut, bolt, stud, lug, ring, or other type securing device is loose, missing, or cracked.

Wheel locating hole(s) are elongated, oversized, or "wallowed out." Any part of a wheel or rim is cracked, repaired by welding or rewelding, or damaged so as to cause unsafe operation of the vehicle.

3) Tires

PROCEDURES/SPECIFICATIONS:

Inspect tire for proper inflation (i.e., flat tire).

A regrooved, retreaded, or recapped tire shall not be on the front steering axle.

A tire with restricted use marking is prohibited (e.g., "NHS" or "SL" following size marking, "Off Highway," "Farm Use," "Racing Only," etc.).

No school bus shall be equipped with any tire which has been so worn that tread configuration is absent on any part of the tire which is in contact with the road surface.

Inspect for tread wear:

- A) Check for the presence of tread wear indicators.
- B) For tires without tread wear indicators, use tread depth gauge to measure groove depth.

Steering (Front) and Drive (Rear) Axles:
Measure groove depth at any point on a major tread groove.

- C) For tires without tread wear indicators and with noncircumferential grooves, or "spaces," between the tread elements (as in snow, mud, lug knob, or traction treads).

Steering (Front) and Drive (Rear) Axles:
Measure in a major groove at a point halfway between the center of the tire and the outside of the tread at any point on a major tread groove.

- D) Inspect tire for bald, partially bald, cupped, dished, or unevenly worn areas.

- E) The measurements shall not be made where the tie bars, humps, or fillets are located.

AGENCY NOTE: "Bald" means without a groove.

Inspect for visible cord damage and exposure of ply cords in sidewalls and treads, including belting material cords.

Inspect for evidence of tread or sidewall separation.

Inspect for regrooved or recut treads.

AGENCY NOTE: 49 CFR 369 requires tires marked "REGROOVABLE" to have sufficient tread rubber that, after regrooving, cord material below the grooves shall have a protective covering of tread material at least 3/32 inch thick.

Inspect tires for legible markings showing size designation and carcass construction.

AGENCY NOTE: "R" in size designation shows radial construction. More plies at tread than sidewall shows belted construction. Same number of plies at tread and sidewall, without a belted or radial indication, shows plain bias construction.

Tires on same axle must be of same construction.

Inspect tires for size designation and for matched construction.

AGENCY NOTE: "Construction" refers to bias, bias belted, or radial arrangement of ply cords in the tire carcass.

Inspect each single dual tire assembly.

A mixture of regular and mud-and-snow treads must be same on both sides of axle.

When radial and conventional (i.e., bias) ply tires are both used on a vehicle, one of the following two requirements shall be met:

- i) On vehicles with one single wheel axle and one or more dual wheel axles, radial tires shall be used on the steering (i.e., front) axle only.
- ii) On vehicles having two single wheel axles, radial tires shall be used on the rear axle only.

A tube built only for bias tire shall not be installed in a radial tire. Red color shall not be added to stem of a "bias" tube. (Valve stem of tube for radial tire is either marked "radial" or has red

ring or is painted red.) A "radial" tube and flap may be used in a bias tire.

Inspect valve stems.

REJECT VEHICLE IF:

Improper inflation (flat tire).

Regrooved, retreaded or recapped tire is located on front steering axle.

Restricted marking is present.

Any part of tire which is in contact with road surface is absent of tread configuration.

- i) Tread wear indicators contact road at any point on a major tread groove.
- ii) On steering (front) axle: Tread groove depth is less than 4/32 inch when measured at any point on a major tread groove.

On drive (rear) axle: Tread groove depth is less than 2/32 inch when measured at any point on a major tread groove.

- iii) On steering axle: Tread groove depth is less than 4/32 inch when measured in a major groove at a point halfway between the center of the tire and the outside of the tread at any point on a major tread groove.

On drive axle: Tread groove depth is less than 2/32 inch when measured in a major groove at a point halfway between the center of the tire and the outside of the tread when measured at any major tread groove.

- iv) The tire has bald, partially bald, cupped, dished or unevenly worn areas.

A broken or cut cord can be seen. Rubber is worn, cracked, cut or otherwise deteriorated or damaged so that a cord can be seen - either when the tire is not touched or when the edges of the crack, cut or damage are parted or lifted by hand.

Tire has bump, bulge, knot or other evidence of partial carcass failure, air seepage, or loss of adhesion between carcass and tread or sidewall.

Tread has been regrooved or recut on a tire that does not have the word "REGROOVABLE" molded on or into both sides of the tire.

A tire on a road wheel does not exhibit a legible size marking and a legible construction marking.

Tires on the same axle are not of same construction.

A tire exceeds the diameter (not width) of its mate by 1/2 inch (1/4 inch radius) or more; or one tire touches its mate.

A mixture of regular and mud-and-snow treads are not the same on both sides of the axle.

Requirements for using both radial and conventional tires on a vehicle are not met.

A tube built only for bias tire but installed in a radial tire.

A valve stem leaks; is cracked; is either damaged or positioned so as to hamper pressure checking or inflation; shows evidence of wear because of misalignment.

e) WINDOWS

PROCEDURES/SPECIFICATIONS:

All applicable provisions of 49 CFR 571.205 apply to the optional laminated safety glass and also to any plastic material(s) used in a multiple glazed unit.

Glazing shall be marked as follows pursuant to 49 CFR 571.205:

- 1) Windshield - "AS 1" Glass
- 2) Driver's window - "AS 1" Glass or "AS 2" Glass
- 3) Driver's door - "AS 1" Glass or "AS 2" Glass
- 4) All other locations - "AS 1" Glass, "AS 2" Glass, or "AS 3" Glass.

REJECT VEHICLE IF:

Windows do not meet requirements.

- 1) Emergency
(Also see
EMERGENCY
EXITS)

PROCEDURES/SPECIFICATIONS:

When the emergency door is located on the left side, a rear emergency window shall be provided. Minimum dimensions are 16 inches high and 48 inches wide. Designed to be opened from the inside or the outside. Hinged on top, designed and operated to insure against accidental closing in an emergency. Inside handle shall provide for quick release. Outside handle shall be nondetachable and nonhitchable. When locked or not fully latched, window shall actuate alarm audible and visible to driver. No cutoff switch allowed.

Optional emergency windows are allowed. They must be labeled "Emergency Exit" in letters at least two inches high, of a color that contrasts with its background, located at the top of or directly above the window on the inside surface of the bus.

REJECT VEHICLE IF:

Operating mechanisms do not function. Alarm does not function. Glass is cracked or broken (see EMERGENCY EXIT - Alarms and Locks).

2) Rear

PROCEDURES/SPECIFICATIONS:

Glazing in rear of bus shall be of fixed type. Any authorized or required sign, letters or numerals displayed on the window in the rear of the bus shall be located so as not to obstruct the driver's view.

REJECT VEHICLE IF:

Visibility through rear windows is obstructed. Glass is cracked or broken.

3) Side

PROCEDURES/SPECIFICATIONS:

All buses purchased after September 1974 must have each side window as an unobstructed emergency opening and at least a nine inch by 22 inch wide opening obtained by lowering the window. Six inch stop line required on all windows. Safety glass, or equivalent, with exposed edges banded.

All buses purchased prior to September 1974 and after January 1, 1972, must have approved safety glass in all windows and doors and all exposed edges of the glass shall be banded.

Those vehicles used as a school bus by school districts and private contractors prior to January 1, 1972, and are still in their possession and had previously passed the school bus safety

inspection can still be utilized if they continue to meet the inspection requirements that were in effect at that time. These vehicles will not have to be brought up to the above standards.

Note: For information regarding optional route identification markings, see LETTERING.

REJECT VEHICLE IF:

Windows do not meet emergency opening requirements.
Window does not open easily. Glass is cracked or broken.
Stop lines are missing.

Window latches do not operate properly.

4) Windshield

PROCEDURES/SPECIFICATIONS:

Shall be installed between front corner posts and must not obstruct driver's view. (Section 12-501 of the Illinois Vehicle Equipment Law)

All buses purchased after September 1974 must have tinted safety glass six inches below top of windshield or equivalent to reduce glare.

All buses purchased prior to September 1974 must have safety glass and shall be heat resistant, laminated plate.

REJECT VEHICLE IF:

Windshield is not firmly sealed or attached. Glass is broken, cracked, or discolored (not including allowed tint). "Star chip" is present which measures more than one inch in diameter.

f) WINDSHIELD
WASHER

PROCEDURES/SPECIFICATIONS:

Windshield washer shall effectively clean the area covered by both wipers.

REJECT VEHICLE IF:

Windshield washer does not effectively clean entire area or does not operate properly.

g) WINDSHIELD
WIPERS

PROCEDURES/SPECIFICATIONS:

Wipers shall be either two speed or variable speed with nonglare arms and blades. Blades need not be individually powered.

REJECT VEHICLE IF:

Windshield wipers do not cover entire cleaning area. Blades are damaged, torn, hardened, or rubber wiping element has broken down. Wiper fails to park properly when shut off.

(Source: Amended at 22 Ill. Reg. 15371, effective August 7, 1998)

**Section 443.APPENDIX L Illinois Minimum Standards for School Bus - Van Type
Conversions 1-16 Passengers Purchased Prior to September 1974**

- a) The service door shall be located to the right of the operator and may be manually controlled from the operator's seat by an over center control.
- b) The emergency doors shall be located in the center of the rear end or on the right-hand side of the school bus. The door shall be equipped with fastening devices for opening from the inside and the outside body, which may be quickly released, but is designed to offer protection against accidental release.
- c) No seat or other object shall be placed in the bus which restricts passageway to the emergency door to less than twelve inches.
- d) The minimum clearance of all aisles, including between the seats and leading to the emergency door shall be twelve inches.
- e) The ceiling and walls shall be insulated with fireproof material to deaden sound and reduce vibration to a minimum.
- f) The interior of the school bus shall be free of all unnecessary projections likely to cause injury. This inner lining on ceilings and walls shall be fiberboard or metal.
- g) All glass in the windshield, windows, and doors shall be of approved safety glass. All exposed edges of glass shall be banded. The glass in the windshield shall be heat-absorbent laminated plate.
- h) 123 inch wheelbase.
- i) G.V.W.R. 7600 pounds.
- j) 3300 lbs. front axle.
- k) 5050 lbs. rear axle.
- l) 1475 lbs. front springs.
- m) 2200 lbs. rear springs.
- n) 8:00 x 16.5, 8 ply rating tires.

- o) 8 hole disc 16.5" x 6.00".
- p) High output primary heater.
- q) Rear heater recirculating type.
- r) Two moveable glass vents or windows. One located on the right side and one on the left side of the driver's areas. These are optional.
- s) 240 cu. in. minimum engine.
- t) 55 amp alternator.
- u) 70 amp battery.
- v) Two 5" x 10" (minimum) outside rear view mirrors (West Coast Type), and two 3" convex mirrors (buses purchased prior to September, 1974, may have the 3" "stick on type" convex mirrors, provided they do not reduce the visual field of the mirror below 50 square inches).
- w) Inside rear view mirror.
- x) A convex crossover mirror 7 1/2" in diameter, mounted on left front to give the seated driver a view of the roadway immediately in front of the front bumper.
- y) Seating plan must allow 13 inches of seating space for each of 16 or fewer passengers, exclusive of the driver. All seats must face forward with a minimum of 12" aisle down the center or down the right side. No jump or portable seats allowed.
- z) Manually or mechanically operated "Stop" signal arm. Hexagon shaped semaphore mandatory on all vehicles purchased after December 31, 1975.
- aa) One rub rail applied to each side operator's door and service door. Rub rail may be omitted on operator's door if "Stop" signal arm is mounted on it.
- bb) Floor must be covered with a non-skid type material.
- cc) Roof mounted "School Bus" sign with flashing lights, acceptable until December 31, 1976. An eight light flashing system is then mandatory.
- dd) Color of bus shall be National School Bus Chrome Yellow.
- ee) All required lettering shall be in black. Emergency door lettering shall be two inches. Bus Number, School Name, District or Contractor's name on both sides of vehicle shall be four inches. "School Bus" shall be eight inches.
- ff) Vehicles may not be altered or converted to carry more than 16 passengers.

Section 443.ILLUSTRATION A Stop Signal Arm Panels

Octagon Shaped Semaphore (see Section 443.APPENDIX J (a))

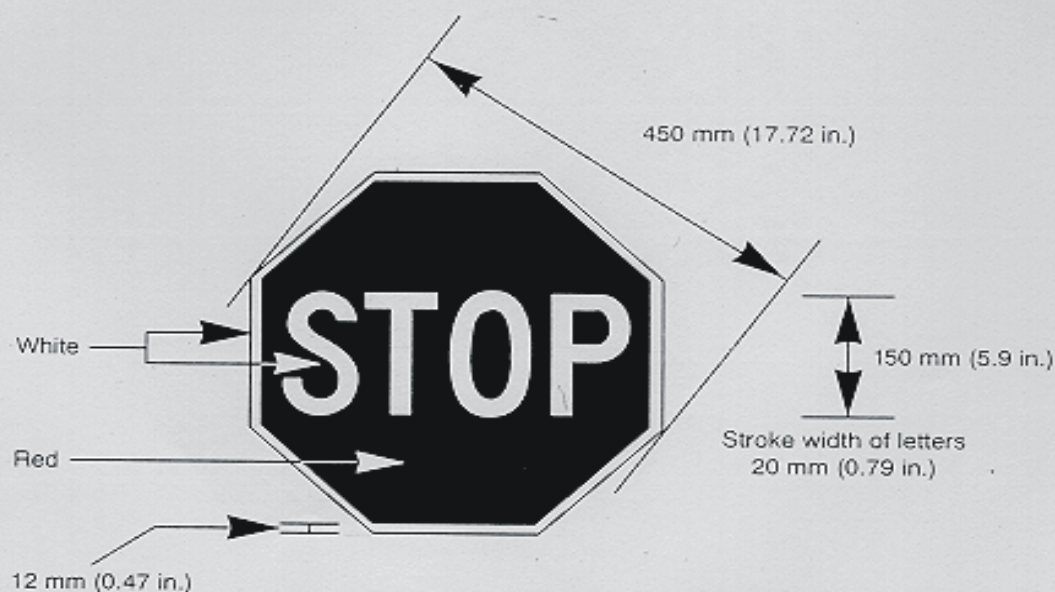
Hexagon Shaped Semaphore (see Section 443.APPENDIX J (a))

Source: Amended at 22 Ill. Reg. 15371, effective August 7, 1998)

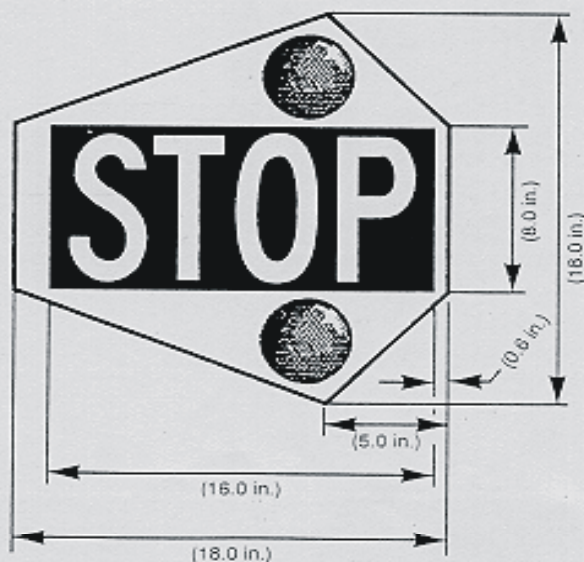
PART I • Inspection Procedures for Type I School Buses

ILLUSTRATION A - STOP SIGNAL ARM PANELS

Octagon Shaped Semaphore (see Chapter 3 – Vehicle Component #47)

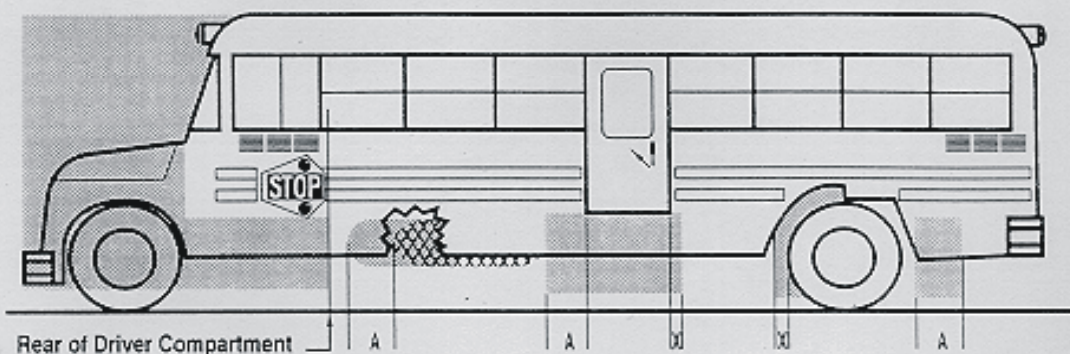


Hexagon Shaped Semaphore (see Chapter 3 – Vehicle Component #47)

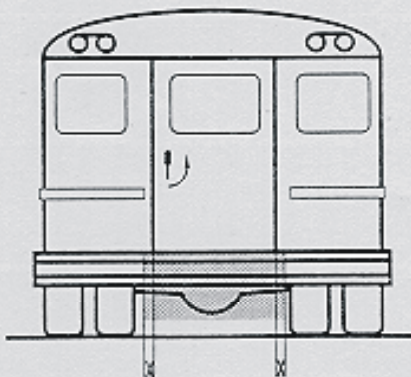
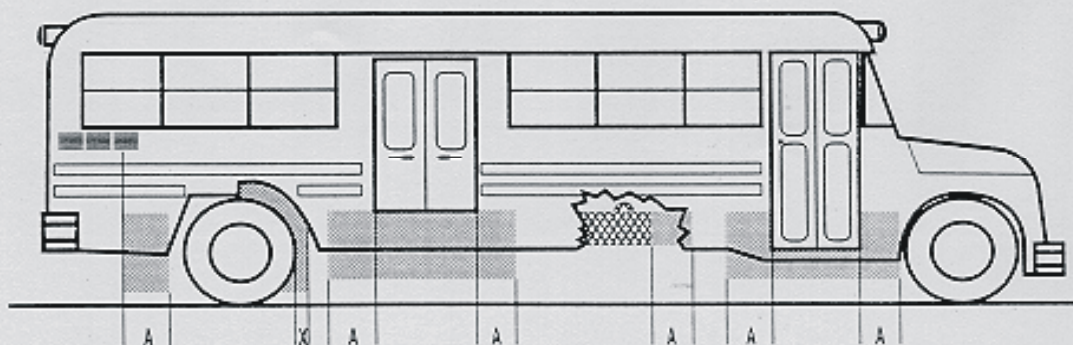


Section 443.ILLUSTRATION B Exhaust Guidelines

ILLUSTRATION B – EXHAUST GUIDELINES



NOT TO SCALE




Distance A = 1 meter (39 3/8")

Distance X = 150 millimeters (5 7/8")

Prohibited Zone

 Ventilating Air Intake
(anywhere on side)

 Fuel Tank

Heat shield between tank and discharge eliminates prohibited zone at tank.

Section 443.ILLUSTRATION C Brake Inspection Report

PART I • Inspection Procedures for Type I School Buses

ILLUSTRATION C – BRAKE INSPECTION REPORT



**Illinois Department
of Transportation**
Division of Traffic Safety
3215 Executive Park Drive
P.O. Box 19212
Springfield, Illinois 62794-9212

School Bus Brake Inspection Report

District or Contractor:

Name _____

Address _____

City/State _____ Zip _____ Telephone (____) _____

School Bus Unit Number _____ Chassis Make _____

Chassis Year _____ Chassis V.I.N. _____

Illinois law requires all school buses to be safety inspected at least once every six months or 10,000 miles, whichever occurs first. In addition, the Illinois Department of Transportation requires that a visual brake inspection be performed on every school bus operated in Illinois at least once a year or every 10,000 miles, whichever occurs first.

A completed School Bus Brake Inspection Report must be presented to the Certified Safety Tester each time a school bus is taken to an Official Testing Station for a safety inspection.

I attest that the entire brake system on the school bus listed above was visually inspected and found to be operating in accordance with the manufacturer's specifications or was repaired to perform in accordance with the manufacturer's specifications. The visual inspection of the brake system was performed on _____ by a qualified

mechanic employed by _____ (date)
(business/school district where brake inspection was completed) The mileage

on this school bus was _____ when the visual brake inspection was performed.
(mileage)

(name of authorized school district official or contractor)

Please print or type

(date)

(signature of authorized school district official or contractor)

(date)

TS 2258 (3/94)

Section 443.ILLUSTRATION D Propane Decal

Illinois School Bus Inspection Manual

ILLUSTRATION D – PROPANE DECAL



Section 443.ILLUSTRATION E Driver's Pre-Trip Inspection Requirements and Sample Form (Repealed)

(Source: Repealed at 22 Ill. Reg. 15371, effective August 7, 1998)

Section 443.ILLUSTRATION F School Bus Emergency Exits

School buses manufactured on or after September 1, 1994 may be equipped with additional exits. These additional exit requirements apply to school buses with an incomplete vehicle date of on or after September 1, 1994. The incomplete vehicle date can be found on the bus' federal certification label.

Each school bus will first be equipped with either a rear emergency door or a side emergency door and rear emergency window as stated in paragraphs (a) and (b).

The following Tables specify the required number of exits depending on the vehicle's passenger capacity and emergency exit configuration.

- a) One rear emergency door that opens outward and is hinged on the right side (either side in the case of a bus with a GVWR of 10,000 pounds or less), and the additional exits, if any, specified by Table 1.

TABLE 1

Seating Capacity	Additional exits required
1-45	None.
45-62	1 left side exit door or 2 exit windows.
63-70	1 left side exit door or 2 exit windows, and 1 roof exit.
71 and above	1 left side exit door or 2 exit windows, and 1 roof exit, and any combination of door, roof, or windows such that the total capacity credit specified in Table 3 for these exits, plus 70, is greater than the seating capacity of the bus.

- b) One emergency door on the vehicle's left side that is hinged on its forward side and a pushout rear window that provides a minimum opening clearance 16 inches high and 48 inches wide, and the additional exits, if any, specified by Table 2.

TABLE 2

Seating Capacity	Additional exits required
1-57	None.
58-74	1 right side exit door or 2 exit windows, and 1 roof exit.
75-82	1 right side exit door or 2 exit windows, and 1 roof exit.
83 and above	1 right side exit door or 2 exit windows, and 1 roof exit, and any combination of door, roof, or windows such that the total capacity credit specified in Table 3 for these exits, plus 82, is greater than the seating capacity of the bus.

TABLE 3

Exit Type	Capacity Credit
Side Door	16
Window	8
Roof Exit	8

AGENCY NOTE: In order to explain the use of Table 3, the following example is provided:

The owner/operator of a 75 passenger bus can choose either a side door, window or roof exit to meet the additional exit requirements for buses with a seating capacity of 71 and above. If the owner/operator chooses a side door, he/she would add 16 and 70 for a total sum of 86. As long as the total sum is greater than the original passenger capacity of the bus, the exit choice is acceptable.

(Source: Added at 22 Ill. Reg. 15371, effective August 7, 1998)

TITLE 92: TRANSPORTATION

CHAPTER I: DEPARTMENT OF TRANSPORTATION

SUBCHAPTER e: TRAFFIC SAFETY (EXCEPT HAZARDOUS MATERIALS)

PART 444

MINIMUM SAFETY STANDARDS FOR CONSTRUCTION OF SCHOOL BUSES
USED IN SPECIAL EDUCATION TRANSPORTATION

Section

444.5	Definitions
444.10	General Requirements
444.15	Incorporation by Reference of Federal Motor Vehicle Safety Standards
444.20	Special Equipment for Children who are Physically and/or Orthopedically Challenged
444.30	Exception

AUTHORITY: Implementing Article VIII of Chapter 12 and authorized by Section 12-812 of the Illinois Vehicle Code (Ill. Rev. Stat. 1991, ch. 95 1/2, pars. 12-800 through 820) [625 ILCS 5/12-Art. VIII].

SOURCE: Adopted at 2 Ill. Reg. 45, p. 108, effective November 10, 1978; codified at 7 Ill. Reg. 2743; amended at 18 Ill. Reg. 14800, effective September 20, 1994.

Section 444.5 Definitions

"Gross Vehicle Weight Rating (GVWR)" means the value specified by the manufacturer as the loaded weight of the school bus.>> (Section 12-800 of the Illinois Vehicle Code) [625 ILCS 5/12-800]

"Individualized Education Program (IEP)" means a written statement for an exceptional child that provides at least a statement of the child's present levels of educational performance; annual goals and short-term instructional objectives; specific special education and related services (includes transportation); the extent of participation in the regular education program; the projected dates for initiation of services; anticipated duration of services; appropriate objective criteria and evaluation procedures; and a schedule for annual determination of short-term objectives. The following participants develop the child's IEP:

A representative of the local district, other than the child's teacher, who is authorized to commit services and who is qualified to provide or supervise the provision of special education.

The child's teacher.

One or both of the child's parents or guardians (if possible).

The child, where appropriate.

Other individuals at the discretion of the parent or local district.

"Special Transportation" means those transportation services which are required because of the child's exceptional characteristics or the location of the special education program or related services, and which are in addition to the regular transportation services provided by the local school district.

"Type I School Bus" means a school bus with a GVWR of more than 10,000 lbs.>> (Section 12-800 of the Illinois Vehicle Code) [625 ILCS 5/12-800]

"Type II School Bus" means a school bus with a GVWR of 10,000 lbs. or less.>> (Section 12-800 of the Illinois Vehicle Code) [625 ILCS 5/12-800]

"Wheelchair Occupant Restraints" means any strap, webbing or similar device designed to secure a person in a wheelchair in order to mitigate the results of any accident, including all necessary buckles and other fasteners, and all hardware designed for installing such restraint in a school bus.

"Wheelchair Securement Anchorages" means the provision for transferring wheelchair securement loads to the vehicle structure. Commonly referred to as fastening devices. (58 FR 4586, January 15, 1993)

"Wheelchair Securement Device" means a strap, webbing or other device used for securing a wheelchair to the school bus, including all necessary buckles and other fasteners. (58 FR 4586, January 15, 1993)

(Source: Added at 18 Ill. Reg. 14800, effective September 20, 1994)

Section 444.10 General Requirements

- a) Generally, a school bus used for transporting children declared eligible for special transportation services shall comply with the applicable minimum safety standards for either a Type I school bus (see 92 Ill. Adm. Code 440) or a Type II school bus (92 Ill. Adm. Code 442).
- b) Due to the nature of certain challenging conditions, vehicles utilized for special transportation shall be adapted to the specific needs of the children receiving this service. These needs may require modification of the minimum standards.
- c) Equipment (e.g., additional restraints, harnesses) necessary for the transportation of special education students must be resolved in the student's Individualized Education Program.
- d) In all buses manufactured on or after January 17, 1994 and having one or more locations designed for carrying a person seated in a wheelchair, the bus must comply with all applicable standards established in 49 CFR 571.222 (S5.4 through S5.4.4) (October 1, 1992; as amended by 58 FR 4586, January 15, 1993 and 58 FR 46873, September 3, 1993). Certain children may be better transported in a manner not required by 49 CFR 571.222 (S5.4 through S5.4.4). In those instances, the student's Individualized Education Program must dictate what is necessary for the child.

(Source: Amended at 18 Ill. Reg. 14800, effective September 20, 1994)

Section 444.15 Incorporation by Reference of Federal Motor Vehicle Safety Standards

Each bus body which is utilized to transport persons in wheelchairs must conform to those applicable provisions of the Federal Motor Vehicle Safety Standards (FMVSS) (49 CFR 571.222) (S5.4 through S5.4.4). Those applicable provisions of the FMVSS are incorporated by reference as that Part of the FMVSS was in effect on October 1, 1992; as amended at 58 FR 4586, January 15, 1993 and as amended at 58 FR 46873, September 3, 1993. No later amendments to or editions of 49 CFR 571.222 are incorporated.

(Source: Added at 18 Ill. Reg. 14800, effective September 20, 1994)

Section 444.20 Special Equipment for Children who are Physically and/or Orthopedically Challenged

- a) Wheelchair Occupant Restraints:
 - 1) For buses manufactured prior to January 17, 1994, appropriate and adequate wheelchair occupant restraints must be installed at each wheelchair location which transports a student in a wheelchair. The restraints must be securely anchored to the wheelchair or the floor of the vehicle.

- 2) For buses manufactured on or after January 17, 1994, each wheelchair location which transports a student in a wheelchair must comply with all wheelchair occupant restraint requirements established in 49 CFR 571.222 (S5.4 through S5.4.4) (October 1, 1992; as amended at 58 FR 4586, January 15, 1993 and as amended at 58 FR 46873, September 3, 1993).
- b) Special Right Side Service Door Opening: A special door opening may be located on right side of bus.
- 1) Door, when open, shall not obstruct a front right service door. Door opening shall be adequate to accommodate wheelchairs.
 - 2) Device(s) shall be installed that will actuate an audible or visible signal, located in driver's compartment, when door opening is not securely closed.
 - 3) Each door shall contain a fixed or movable window as nearly as practical aligned with and of same size as other window(s) on right side of bus.
 - 4) A positive fastening device shall be installed to hold door(s) in open position. Each hinged door shall open outwards. When the special service door is completely open for loading and unloading passengers with special needs and being held by the fastening device, the audible alarm can be deactivated.
 - 5) Door panel(s) shall be constructed to be equivalent in strength and materials to other doors in the school bus.
 - 6) Door opening posts and headers shall be reinforced sufficiently to provide support and strength equivalent to area of side of bus not used for service doors. Outriggers from chassis shall be installed at front and/or rear of door opening as necessary to support floor so that it will carry the same passenger and/or cargo load(s) as other floor portions.
 - 7) Requirements for Bi-Parting Doors only:
 - A) Door shall be made of two panels of approximately equal width, equipped with hinges, hinged to side of bus and each panel shall open outward. Forward panels shall be provided with overlapping flange to close space where door panels meet. Weather seal(s) shall be provided to close all door edges.
 - B) Door shall be equipped with at least one-point fastening device on rear panel to floor or header and at least two-point fastening device to floor and header on forward door panel, both manually operated.
 - 8) Special Lamp: A lamp shall be placed inside bus over special service door opening, or at other location if shielded to prevent glare. The lamp

shall illuminate the floor inside the opening and shall be operated from door area.

c) Ramps and Lifts:

- 1) Floor of ramp or lift shall be covered with nonskid material.
- 2) Protection against dust and water sufficient to ensure reliable operation shall be provided.
- 3) Power Lift:
 - A) If power lift is used, it shall be of sufficient capacity and dimension to lift maximum service load. When lift is at top or bottom of the service travel limits it shall provide easy egress and ingress from the lift.
 - B) If electricity is used, the alternator or generator and the battery must be of ample capacity.
 - C) Controls shall be operable from both interior and exterior of vehicle.
 - D) Device(s) shall be installed which will prevent operation of lift until doors are opened.
 - E) In travel position the lift must be securely fastened as necessary to prevent its falling or swinging against any person.
- 4) Ramp:
 - A) Ramp shall be of sufficient strength and rigidity to support the service load. Ramp shall be equipped with protective flange on each longitudinal side to keep wheelchair on ramp.
 - B) Ramp shall be equipped with handle, or handles, and be of such weight or construction as to permit one person to put ramp in place and to return it to travel position.
 - C) Ramp shall be connected to bus in such manner as to permit easy movement of wheelchair to floor of bus.
 - D) Ramp length shall be sufficient for easy ingress and egress.

d) Wheelchair Securement Anchorages:

- 1) In buses manufactured prior to January 17, 1994, positive wheelchair securement anchorages shall be provided, attached to the floor or wall, or both, that will securely hold wheelchair in position in bus.

- 2) In buses manufactured on or after January 17, 1994, each wheelchair location must be equipped with forward-facing wheelchair securement anchorages. Additional securement anchorages which allow other than forward-facing orientation can be added to a wheelchair location provided the forward-facing anchorages are not altered and the additional anchorages meet all other standards established in 49 CFR 571.222 (S5.4 through S5.4.4) (October 1, 1992; as amended at 58 FR 4586, January 15, 1993 and as amended at 58 FR 46873, September 3, 1993).
- e) Grab Handles: Grab Handles shall be provided on each side of front right service entrance when this entrance is used for ingress or egress of physically challenged children who need such handle(s) on either side.

(Source: Amended at 18 Ill. Reg. 14800, effective September 20, 1994)

Section 444.30 Exception

Service Door Control: An over-center control, or equivalent device, is not required when the front right service door will NOT be used for ingress or egress of ambulatory children.

TITLE 92: TRANSPORTATION
CHAPTER I: DEPARTMENT OF TRANSPORTATION
SUBCHAPTER e: TRAFFIC SAFETY (EXCEPT HAZARDOUS MATERIALS)

PART 445
INSPECTION PROCEDURES FOR SPECIAL EDUCATION SCHOOL BUSES

Section	
445.10	Purpose and Scope
445.20	Application
445.25	Incorporation by Reference of Federal Regulations
445.30	Standards of Construction
445.40	Definitions

APPENDIX A Procedures for Type I Special Education School Buses

APPENDIX B Procedures for Type II Special Education School Buses

AUTHORITY: Implementing and authorized by Article VIII of the Illinois Vehicle Equipment Law [625 ILCS 5/Ch. 12, Art. VIII] and the Illinois Vehicle Inspection Law [625 ILCS 5/Ch. 13]

SOURCE: Adopted at 19 Ill. Reg. 4503, effective March 13, 1995; amended at 22 Ill. Reg. 16327, effective August 25, 1998.

Section 445.10 Purpose and Scope

- a) *Each school bus which is operated for transporting passengers who are persons with disabilities shall be equipped with an appropriate restraining or safety device for each such passenger. (Section 12-810 of the Illinois Vehicle Equipment Law)*
- b) This Part prescribes the requirements of the Illinois Department of Transportation governing:
 - 1) Implementation of Article VIII of the Illinois Vehicle Equipment Law [625 ILCS 5/Ch. 12, Art. VIII]; and
 - 2) Inspection procedures for special education school buses.

(Source: Amended at 22 Ill. Reg. 16327, effective August 25, 1998)

Section 445.20

This Part applies to the following persons:

- a) Department personnel;
- b) Owners of Official Testing Stations;
- c) Employees of Official Testing Stations;
- d) School bus operation managers; and
- e) School bus drivers.

Section 445.25 Incorporation by Reference of Federal Regulations

Whenever this Part refers to the Code of Federal Regulations and that reference incorporates the federal regulations by reference, the federal regulations incorporated shall be that which was effective as of October 1, 1996, not including any later amendments or editions. Copies of appropriate federal regulations are available for inspection at the Department's Commercial Vehicle Safety Section, 3215 Executive Park Drive, Springfield, Illinois 62703, (217) 785-1181.

(Source: Added at 22 Ill. Reg. 16327, effective August 25, 1998)

Section 445.30 Standards of Construction

- a) "Shall" and "must" are used in the imperative sense. "Shall" imposes an obligation to act. "Must" defines a condition that is to be satisfied. "May" allows permissiveness under terms specified in the standards. "Will" indicates intention, promise or willingness.
- b) Words imparting the masculine gender include the feminine.

- c) Changes in the administration of the State school bus inspection program and changes to federal and State law have caused the purchase or manufacture date of school buses to be critical in the application of these regulations. The effective dates for some of these standards will vary.
- 1) Exemptions to some standards are provided for school buses purchased prior to September 1974, the effective date of the Department's "Vehicle Inspection Stations Governing School Buses."
 - 2) Exemptions to some standards are provided for school buses manufactured prior to March 1977, the date of the Department's Order "Minimum Safety Standards for Construction of Type I School Buses."
 - 3) Exemptions are provided for Type II school buses manufactured prior to October 1978, the date of the Department's Order "Minimum Safety Standards for Construction of Type II School Buses."
 - 4) Some standards are identified with other effective dates. These standards are applicable to all school buses manufactured or purchased after the identified date or during the time frame specified.

Section 445.40 Definitions

"Body" - Portion of vehicle that encloses the occupant and cargo spaces and separates those spaces from the chassis frame, engine compartment, driveline, and other chassis components, except certain chassis controls used by the driver.

"Body-on-Chassis" - Completed vehicle consisting of a passenger seating body mounted on a truck type chassis (or other separate chassis) so that the body and chassis are separate entities, although one may reinforce or brace the other.

"Bus" - Every motor vehicle, other than a commuter van, designed for carrying more than ten persons. (Section 1-107 of the Illinois Vehicle Code (the Code) [625 ILCS 5/1-107])

"Chassis" - Every frame or supportive element of a school bus that contains but is not limited to the axles, engine, drive train, steering components, and suspension which the body is attached to. (Section 1-110.1 of the Code)

"Code" - The Illinois Vehicle Code [625 ILCS 5].

"Commercial Vehicle Safety Section (CVSS)" - A section of the Bureau of Safety Programs of the Division of Traffic Safety of the Illinois Department of Transportation.

"Department" - The Department of Transportation of the State of Illinois, acting directly or through its authorized agents or officers. (Section 13-100 of the Code)

"Empty Weight" - Unloaded vehicle weight; i.e., the weight of a vehicle with maximum capacity of all fluids necessary for operation of the vehicle but without cargo or occupant.

"Federal Motor Vehicle Safety Standards (FMVSS)" - The rules, regulations and standards set forth in 49 CFR 571.

"Illinois Vehicle Equipment Law" - 625 ILCS 5/Ch. 12.

"Individualized Education Program (IEP)" - A written statement for an exceptional child that provides at least a statement of the child's present levels of educational performance; annual goals and short-term instructional objectives; specific special education and related services (includes transportation); the extent of participation in the regular education program; the projected dates for initiation of services; anticipated duration of services; appropriate objective criteria and evaluation procedures; and a schedule for annual determination of short-term objectives. The following participants develop the child's IEP:

A representative of the local district, other than the child's teacher, who is authorized to commit services and who is qualified to provide or supervise the provision of special education.

The child's teacher.

One or both of the child's parents or guardians (if possible).

The child, where appropriate.

Other individuals at the discretion of the parent or local district.

"Manufacturer" - Unless otherwise indicated at the point of use, means the person or organization whose name follows "MANUFACTURED BY" or "MFD BY" on the federal and State certification label.

"Passenger" - Every occupant of the vehicle who is not the driver.

"Purchase Date" - Date when purchase transaction was completed, not when body or chassis was built.

"School Bus" -

Type I School Bus - A School Bus with gross vehicle weight rating of more than 10,000 pounds.

Type II School Bus - A School Bus with gross vehicle weight rating of 10,000 pounds or less. (Section 12-800 of the Illinois Vehicle Equipment Law)

Every motor vehicle, except as provided below, owned or operated by or for any of the following entities for the transportation of persons regularly enrolled as students in grade 12 or below in connection with any activity of such entity:

*Any public or private primary or secondary school;
Any primary or secondary school operated by a religious institution; or
Any public, private or religious nursery school.*

This definition shall not include the following:

A bus operated by a public utility, municipal corporation or common carrier authorized to conduct local or interurban transportation of passengers when such bus is not traveling a specific school bus route but is:

On a regularly scheduled route for the transportation of other fare paying passengers;

Furnishing charter service for the transportation of groups on field trips or other special trips or in connection with other special events; or

Being used for shuttle service between attendance centers or other educational facilities.

A motor vehicle of the first division.

A motor vehicle designed for the transportation of not less than 7 nor more than 16 persons that is operated by or for a public or private primary or secondary school, including any primary or secondary school operated by a religious institution, for the purpose of transporting not more than 15 students to and from interscholastic athletic or other interscholastic or school sponsored activities. (Section 1-182 of the Code)

"Seat Safety Belt" - Any strap, webbing, or similar device designed to secure a person in a motor vehicle in order to mitigate the results of any accident, including all necessary buckles and other fasteners, and all hardware designed for installing such seat belt assembly in a motor vehicle.

"Special Education School Buses" - Vehicles constructed to transport children with special needs which require the alteration of specific component requirements (i.e., ramps, lifts, wheelchair accommodations).

"Vehicle" -

First Division: Those motor vehicles which are designed for the carrying of not more than ten persons.

Second Division: Those vehicles which are designed for carrying more than ten persons, those designed or used for living quarters and those vehicles which are designed for pulling or carrying property, freight or cargo, those motor vehicles of the First Division remodeled for use and used as motor vehicles of the Second Division, and those motor vehicles of the First Division used and registered as school buses. (Section 1-217 of the Code)

"Wheelchair Occupant Restraints" - Any strap, webbing or similar device designed to secure a person in a wheelchair in order to mitigate the results of any accident, including all necessary buckles and other fasteners, and all hardware designed for installing such restraint in a school bus.

"Wheelchair Securement Anchorages" - The provision for transferring wheelchair securement loads to the vehicle structure. Commonly referred to as fastening devices. (49 CFR 571.222)

"Wheelchair Securement Device" - A strap, webbing or other device used for securing a wheelchair to the school bus, including all necessary buckles and other fasteners. (49 CFR 571.222)

(Source: Amended at 22 Ill. Reg. 16327, effective August 25, 1998)

Section 445.APPENDIX A Procedures for Type I Special Education School Buses

Generally, a school bus used for transporting children declared eligible for special transportation services shall comply with the applicable minimum standards for either a Type I school bus (see 92 Ill. Adm. Code 440) or a Type II school bus (see 92 Ill. Adm. Code 442). However, due to the nature of certain challenging conditions, vehicles utilized for special education transportation shall be adapted to the specific needs of the children receiving this service. These needs may require modification of the minimum standards. Equipment necessary for the transportation of special education students must be resolved in the student's Individualized Education Program.

The interior design of these vehicles will not be a cause for rejection provided an approval, issued by the Department, is presented to the Certified Safety Tester at the time of inspection.

a) Grab
Handles PROCEDURES/SPECIFICATIONS:

Grab handles shall be provided on each side of front right service door only when this door is used for entry and exit of children.

REJECT VEHICLE IF:

Grab handles are not securely attached; do not meet requirements or are missing.

b) Lifts and
Ramps PROCEDURES/SPECIFICATIONS:

Floor of ramp or lift shall be covered with nonskid material.

Protection against dust and water sufficient to ensure reliable operation must be present.

REJECT VEHICLE IF:

Lifts and ramps do not operate properly or do not meet requirements.

1) Power Lift

PROCEDURES/SPECIFICATIONS:

If power lift is used, it shall be of sufficient capacity and dimension to lift maximum imposed load, lift at top and bottom travel limits shall provide easy entrance and exit from the lift.

If electricity is used, the alternator or generator and battery must be of increased capacity.

Controls shall be operable from both interior and exterior of vehicle.

Device shall be installed that will be used to prevent operation of lift until doors are opened.

In travel position, the lift must be in its uppermost position and securely fastened.

Vehicles of less than 54-passenger capacity constructed for transportation of handicapped children may have the fuel tank located behind rear wheels, inside or outside chassis frame, with fill pipe located on right side of body.

REJECT VEHICLE IF:

Power lift does not operate properly or does not meet requirements.

2) Ramp

PROCEDURES/SPECIFICATIONS:

Ramp shall be of sufficient strength and rigidity to support the imposed load. Shall be equipped with protective flange on each longitudinal side to keep wheelchair on ramp.

Ramp shall be equipped with handle, or handles, and be of sufficient weight to permit one person to put ramp in place and return to storage place.

Ramp shall be connected to bus at floor level in such manner as to permit easy access of wheelchair to floor of bus.

Ramp length shall be sufficient for easy entry and exit.

REJECT VEHICLE IF:

Ramp does not operate properly; does not meet requirements.

- c) Over Center
Door
Control

PROCEDURES/SPECIFICATIONS:

Over center door control shall be provided only when this door is used for entry and exit of children.

REJECT VEHICLE IF:

If installed, does not operate properly. Does not meet requirements. Missing when required.

- d) Seat Safety
Belts

PROCEDURES/SPECIFICATIONS:

Passenger seats on Type I school buses are not required by State or federal law to be equipped with seat safety belts. However, seat safety belts may be required pursuant to a student's IEP or as stated below.

If seat safety belts are present, they must be firmly secure. They must not show excessive wear and the buckle must function properly. Each seat safety belt must be readily available for quick and easy use. If retractors are installed, they must be the automatic locking type.

Special education school buses may be equipped with passenger seats that do not have guard barriers installed in front of them. These passenger seats are to be used only by student's aides and must be equipped with seat safety belts at each location used by an aide. The school bus driver must present a letter from the Commercial Vehicle Safety Section approving this exception.

REJECT VEHICLE IF:

If present, seat safety belts are not firmly secure or show excessive wear, or buckle does not function properly.

Barrier is not present in front of aide's seat and no seat safety belts are provided. No letter of exception provided.

- e) Special
Light

PROCEDURES/SPECIFICATIONS:

Light shall be placed inside bus over special service door opening, or at other location if shielded to prevent glare. The lamp shall illuminate the floor inside the opening and shall be operated from door area.

REJECT VEHICLE IF:

Special light does not operate properly; does not meet requirements or is missing.

f) Special
Service
Door

PROCEDURES/SPECIFICATIONS:

A special door opening may be located on right side of bus far enough to rear to prevent door, when open, from obstructing front right service door. Door opening shall be adequate to accommodate wheel chairs.

Door shall be equipped with device that will actuate audible or visible signal, located in driver's compartment, when special service door is not securely closed.

Each door shall contain a fixed or movable window aligned with and of same size (as nearly as practicable) as other windows on right side of bus.

Each door panel shall open outward and a positive fastening device shall be installed to hold door in open position. When the special service door is completely open for loading and unloading passengers with special needs and being held by the fastening device, the audible alarm can be deactivated.

Door panels shall be constructed to be equivalent in strength and materials to other school bus doors.

Door posts and headers shall be reinforced sufficiently to provide support and strength equivalent to area of side of bus not used for service doors. Outriggers from chassis shall be installed at front and rear of door openings to support floor with same strength as other floor portions.

Bi-parting doors must meet the following requirements:

Bi-parting doors shall be made of two panels of approximately equal width. They shall be hinged to side of bus and each panel shall open outward. Forward panels shall be provided with overlapping flange to close space where door panels meet and weather seal shall be provided to close all door edges.

Bi-parting doors shall be equipped with at least one-point fastening device on rear panel to floor or header and at least two-point fastening

device to floor and header on forward door panel, both manually operated.

Sliding doors are acceptable provided they meet manufacturer's specifications.

REJECT VEHICLE IF:

Special service door does not operate properly; does not meet requirements; audible or visible alarm does not work or is missing.

Bi-parting or sliding doors do not operate properly. Do not meet requirements. Door does not seal properly. Weather seal is cracked or missing.

g) Wheelchair
Occupant
Restraints

PROCEDURES/SPECIFICATIONS:

- 1) For buses manufactured prior to January 17, 1994, appropriate and adequate wheelchair occupant restraints must be installed at each wheelchair location which transports a student in a wheelchair. The restraints must be securely anchored to the wheelchair or the floor of the vehicle.
- 2) For buses manufactured on or after January 17, 1994, each wheelchair location that transports a student in a wheelchair must be equipped with:
 - A) Not less than one anchorage for the upper end of the upper torso restraint;
 - B) Not less than two floor anchorages for wheelchair occupant pelvic and upper torso restraint; and
 - C) Wheelchair occupant pelvic and upper torso restraints. (49 CFR 571.222)

REJECT VEHICLE IF:

Wheelchair occupant restraints do not meet requirements.

h) Wheelchair
Securement
Anchorages

PROCEDURES/SPECIFICATIONS:

In buses manufactured prior to January 17, 1994, positive wheelchair securement anchorages shall be provided and attached to the floor, walls, or both, that will securely hold wheelchair in position in bus.

In buses manufactured on or after January 17, 1994, each wheelchair location must be equipped with forward-facing wheelchair securement anchorages. Additional securement anchorages which allow other than forward-facing orientation can be added to a wheelchair location provided the forward-facing anchorages are not altered and the additional anchorages meet the same standards as the existing fastening devices. (49 CFR 571.222)

In buses manufactured on or after January 17, 1994, each wheelchair location must be equipped with two wheelchair securement anchorages in the rear and two anchorages in the front. Each securement device must be either of webbing or strap and provide means of adjustment or of a design that provides limited movement. (49 CFR 571.222)

REJECT VEHICLE IF:

In buses manufactured prior to January 17, 1994, wheelchair securement anchorages do not securely hold wheelchair to floor, walls or both.

In buses manufactured on and after January 17, 1994:

- 1) Each wheelchair location is not equipped with forward-facing wheelchair securement anchorages. Additional anchorages do not meet same standards as existing anchorages.
- 2) Wheelchair securement anchorages do not meet requirements.

(Source: Amended at 22 Ill. Reg. 16327, effective August 25, 1998)

Section 445.APPENDIX B Procedures for Type II Special Education School Buses

Generally, a school bus used for transporting children declared eligible for special transportation services shall comply with the applicable minimum standards for either a Type I school bus (see 92 Ill. Adm. Code 440) or a Type II school bus (see 92 Ill. Adm. Code 442). However, due to the nature of certain challenging conditions, vehicles utilized for special education transportation shall be adapted to the specific needs of the children receiving this service. These needs may require modification of the minimum standards. Equipment necessary for the transportation of special education students must be resolved in the student's Individualized Education Program.

The interior design of these vehicles will not be a cause for rejection provided an approval, issued by the Department, is presented to the Certified Safety Tester at the time of inspection.

- a) Grab
Handles

PROCEDURES/SPECIFICATIONS:

Grab handles shall be provided on each side of front right service door only when this door is used for entry and exit of children.

REJECT VEHICLE IF:

Grab handles are not securely attached, do not meet requirements or are missing.

b) Lifts and Ramps

PROCEDURES/SPECIFICATIONS:

Floor of ramp or lift shall be covered with nonskid material.

Protection against dust and water sufficient to ensure reliable operation must be present.

REJECT VEHICLE IF:

Lifts and ramps do not operate properly or do not meet requirements.

1) Power Lift

PROCEDURES/SPECIFICATIONS:

If power lift is used, it shall be of sufficient capacity and dimension to lift maximum imposed load, lift at top and bottom travel limits shall provide easy entrance and exit from the lift.

If electricity is used, the alternator or generator and battery must be of increased capacity.

Controls shall be operable from both interior and exterior of vehicle.

Device shall be installed that will be used to prevent operation of lift until doors are opened.

In travel position, the lift must be in its uppermost position and securely fastened.

Vehicles of less than 54-passenger capacity constructed for transportation of handicapped children may have the fuel tank located behind rear wheels, inside or outside chassis frame, with fill pipe located on right side of body.

REJECT VEHICLE IF:

Power lift does not operate properly or does not meet requirements.

2) Ramp

PROCEDURES/SPECIFICATIONS:

Ramp shall be of sufficient strength and rigidity to support the imposed load. Shall be equipped with protective flange on each longitudinal side to keep wheelchair on ramp.

Ramp shall be equipped with handle, or handles, and be of sufficient weight to permit one person to put ramp in place and return to storage place.

Ramp shall be connected to bus at floor level in such manner as to permit easy access of wheelchair to floor of bus.

Ramp length shall be sufficient for easy entry and exit.

REJECT VEHICLE IF:

Ramp does not operate properly or does not meet requirements.

- c) Over Center
Door
Control

PROCEDURES/SPECIFICATIONS:

Over center door control shall be provided only when this door is used for entry and exit of children.

REJECT VEHICLE IF:

If installed, does not operate properly, does not meet requirements or is missing when required.

- d) Seat Safety
Belts

PROCEDURES/SPECIFICATIONS:

In buses manufactured on or after April 1, 1977, seat safety belts are required at each designated seating position and must meet all applicable requirements of 49 CFR 571.222.

Each seat safety belt must be readily available for quick and easy use. They must not show excessive wear and the buckle must function properly. If retractors are installed, they must be the automatic locking type.

Special education school buses may be equipped with passenger seats that do not have guard barriers installed in front of them. These passenger seats are to be used only by students' aides and must be equipped with seat safety belts at each seating location used by an aide. The school bus driver must present a letter from the Commercial Vehicle Safety Section approving this exception.

In buses manufactured prior to April 1, 1977, seat belts are optional.

REJECT VEHICLE IF:

Seat safety belts do not meet requirements.

Barrier is not present in front of aide's seat and no seat safety belt is provided. No letter of exception provided.

e) Special
Light

PROCEDURES/SPECIFICATIONS:

Light shall be placed inside bus over special service door opening, or at other location if shielded to prevent glare. The lamp shall illuminate the floor inside the opening and shall be operated from door area.

REJECT VEHICLE IF:

Special light does not operate properly, does not meet requirements or is missing.

f) Special
Service
Door

PROCEDURES/SPECIFICATIONS:

A special door opening may be located on right side of bus far enough to rear to prevent door, when open, from obstructing front right service door. Door opening shall be adequate to accommodate wheel chairs.

Door shall be equipped with device that will actuate audible or visible signal, located in driver's compartment, when special service door is not securely closed.

Each door shall contain a fixed or movable window aligned with and of same size (as nearly as practicable) as other windows on right side of bus.

Each door panel shall open outward and a positive fastening device shall be installed to hold door in open position. When the special service door is completely open for loading and unloading passengers with special needs and being held by the fastening device the audible alarm can be deactivated.

Door panels shall be constructed to be equivalent in strength and materials to other school bus doors.

Door posts and headers shall be reinforced sufficiently to provide support and strength equivalent to area of side of bus not used for service doors. Outriggers from chassis shall be installed at front and rear of door openings to support floor with same strength as other floor portions.

Bi-parting doors (if installed) must meet the following requirements:

Bi-parting doors shall be made of two panels of approximately equal width. They shall be hinged to side of bus and each panel shall open outward. Forward panels shall be provided with overlapping flange to

close space where door panels meet and weather seal shall be provided to close all door edges.

Bi-parting doors shall be equipped with at least one-point fastening device on rear panel to floor or header and at least two-point fastening device to floor and header on forward door panel, both manually operated.

Sliding doors are acceptable provided they meet manufacturer's specifications.

REJECT VEHICLE IF:

Special service door does not operate properly. Does not meet requirements. Audible or visible alarm does not work or is missing.

Bi-parting or sliding doors do not operate properly or do not meet requirements. Door does not seal properly. Weather seal is cracked or missing.

g) Wheelchair
Occupant
Restraints

PROCEDURES/SPECIFICATIONS:

- 1) For buses manufactured prior to January 17, 1994, appropriate and adequate wheelchair occupant restraints must be installed at each wheelchair location which transports a student in a wheelchair. The restraints must be securely anchored to the wheelchair or the floor of the vehicle.
- 2) For buses manufactured on or after January 17, 1994, each wheelchair location which transports a student in a wheelchair must be equipped with:
 - A) Not less than one anchorage for the upper end of the upper torso restraint;
 - B) Not less than two floor anchorages for wheelchair occupant pelvic and upper torso restraint; and
 - C) Wheelchair occupant pelvic and upper torso restraints (49 CFR 571.222)

REJECT VEHICLE IF:

Wheelchair occupant restraints do not meet requirements.

h) Wheelchair
Securement
Anchorages

PROCEDURES/SPECIFICATIONS:

In buses manufactured prior to January 17, 1994, positive wheelchair securement anchorages shall be provided and attached to the floor, walls, or both, that will securely hold wheelchair in position in bus.

In buses manufactured on or after January 17, 1994, each wheelchair location must be equipped with forward-facing wheelchair securement anchorages. Additional securement anchorages which allow other than forward-facing orientation can be added to a wheelchair location provided the forward-facing anchorages are not altered and the additional anchorages meet the same standards as the existing fastening devices. (49 CFR 571.222)

In buses manufactured on or after January 17, 1994, each wheelchair location must be equipped with two wheelchair securement anchorages in the rear and two anchorages in the front. Each securement device must be either of webbing or strap and provide means of adjustment or of a design that provides limited movement. (49 CFR 571.222)

REJECT VEHICLE IF:

In buses manufactured prior to January 17, 1994, wheelchair securement anchorages do not securely hold wheelchair to floor, walls or both.

In buses manufactured on and after January 17, 1994:

- 1) Each wheelchair location is not equipped with forward-facing wheelchair securement anchorages. Additional anchorages do not meet same standards as existing anchorages.
- 2) Wheelchair securement anchorages do not meet requirements.

(Source: Amended at 22 Ill. Reg. 16327, effective August 25, 1998)

TITLE 92: TRANSPORTATION
CHAPTER I: DEPARTMENT OF TRANSPORTATION
SUBCHAPTER e: TRAFFIC SAFETY (EXCEPT HAZARDOUS MATERIALS)

PART 447
SCHOOL BUS BRAKE INSPECTIONS

Section	
447.1000	Purpose
447.1010	Applicability
447.1020	Definitions
447.1030	Administrative Requirements

ILLUSTRATION A School Bus Brake Inspection Report

AUTHORITY: Implementing and authorized by Section 12-812 of the Illinois Vehicle Equipment Law [625 ILCS 5/12-812].

SOURCE: Adopted at 19 Ill. Reg. 4745, effective March 13, 1995.

NOTE: Capitalization denotes statutory language.

Section 447.1000 Purpose

This Part prescribes the requirements and procedures used to implement the Department's annual or 10,000 mile, whichever occurs first, school bus brake inspection program.

Section 447.1010 Applicability

This Part applies to the following persons:

- a) Department personnel;
- b) School bus owners or operators;
- c) Mechanics performing school bus brake inspections; and
- d) Certified Safety Testers at Illinois School Bus Official Testing Stations.

Section 447.1020 Definitions

"Brake components" - Any component the manufacturer has determined necessary to satisfy regulations or standards (FMVSS or SAE) governing braking operations.

"Certified Safety Tester"(CST) - An individual employed by an Official Testing Station who has passed a written exam and has demonstrated proficiency in the operation of authorized safety test equipment and has been issued evidence and authority by the Department to safety test vehicles in Illinois.

"Code" - The Illinois Vehicle Code [625 ILCS 5].

"Department" - The Department of Transportation of the State of Illinois, acting directly or through its authorized agents or officers. (Section 13-100 of the Code)

"Federal Motor Vehicle Safety Standards"(FMVSS) - The rules, regulations and standards set forth in 49 CFR 571.

"Officer" - An employee of the Illinois Department of Transportation.

"Official Testing Station" - All contiguous real and personal property which houses the testing lane(s) and any and all equipment and supplies relating to the safety inspection of vehicles.

"Society of Automotive Engineers"(SAE) - Society responsible for establishing industry standards which manufacturers follow in design and construction of motor vehicles.

"School Bus" - EVERY MOTOR VEHICLE, EXCEPT AS PROVIDED BELOW, OWNED OR OPERATED BY OR FOR ANY OF THE FOLLOWING ENTITIES FOR THE TRANSPORTATION OF PERSONS REGULARLY ENROLLED AS

STUDENTS IN GRADE 12 OR BELOW IN CONNECTION WITH ANY
ACTIVITY OF SUCH ENTITY:

ANY PUBLIC OR PRIVATE PRIMARY OR SECONDARY SCHOOL;
ANY PRIMARY OR SECONDARY SCHOOL OPERATED BY A
RELIGIOUS INSTITUTION; OR
ANY PUBLIC, PRIVATE OR RELIGIOUS NURSERY SCHOOL.

THIS DEFINITION SHALL NOT INCLUDE THE FOLLOWING:

A BUS OPERATED BY A PUBLIC UTILITY, MUNICIPAL
CORPORATION OR COMMON CARRIER AUTHORIZED TO
CONDUCT LOCAL OR INTERURBAN TRANSPORTATION OF
PASSENGERS WHEN SUCH BUS IS NOT TRAVELING A SPECIFIC
SCHOOL BUS ROUTE BUT IS:

ON A REGULARLY SCHEDULED ROUTE FOR THE
TRANSPORTATION OF OTHER FARE PAYING
PASSENGERS;

FURNISHING CHARTER SERVICE FOR THE
TRANSPORTATION OF GROUPS ON FIELD TRIPS OR
OTHER SPECIAL TRIPS OR IN CONNECTION WITH OTHER
SPECIAL EVENTS; OR

BEING USED FOR SHUTTLE SERVICE BETWEEN
ATTENDANCE CENTERS OR OTHER EDUCATIONAL
FACILITIES.

A MOTOR VEHICLE OF THE FIRST DIVISION. (Section 1-182 of the
Code.)

"School Bus Brake Inspection Report" (see Section 447. Illustration A) - The form established by the Department to be used by school bus owners/operators to record school bus brake inspection requirements. The Brake Inspection Report is presented to the CST at the Official Testing Station at the time of the safety inspection required by Section 13-101 of the Code.

"Vehicle Inspection Report" - The form prescribed by the Department which is completed at the Official Testing Station when a vehicle is presented for a safety inspection.

Section 447.1030 Administrative Requirements

- a) The Department requires brakes on school buses operated in Illinois to be visually inspected every 10,000 miles or once a year (whichever occurs first).
- b) This brake inspection is separate from and in addition to the 10,000 mile or semi-annual safety inspection required by Section 13-101 of the Code.

- c) The brake components (e.g., linings, drums, hydraulic or air lines, wheel cylinders) must be visually inspected on each school bus. This inspection usually requires the wheels to be pulled from the school bus. Some manufacturers have provided inspection ports on the wheels which can be used in lieu of pulling the wheels provided all applicable brake components can be properly inspected.
- d) The brake components must be inspected to verify the manufacturer's specifications are being met or exceeded at the time of the brake inspection.
- e) A school bus brake inspection report must be completed for each school bus inspected to document compliance with the manufacturer's specifications.
- f) The school bus brake inspection report (Section 447.Illustration A) contains the following information. An original or photocopy of Section 447.Illustration A must be used to comply with this subsection.
 - 1) Name, address and phone number of the bus owner/operator;
 - 2) District or school served;
 - 3) School bus unit number;
 - 4) School bus chassis make;
 - 5) School bus chassis year;
 - 6) Vehicle Identification Number;
 - 7) Date and location of brake inspection; and
 - 8) Mileage on school bus at the time of brake inspection.
- g) The Brake Inspection Report must be signed and dated by an authorized official of the contractor or school district. The authorized official takes full responsibility for the inspection of the braking system.
- h) A valid, properly completed Brake Inspection Report (see Section 447.Illustration A) must be presented to the CST at the time of the safety inspection required by Section 13-101 of the Illinois Vehicle Code. This report must be retained at the Official Testing Station attached to the corresponding Vehicle Inspection Report.
- i) If the school bus has been driven less than 10,000 miles and less than 12 months have passed since the bus was manufactured, a brake inspection report is not required. The CST should write "Less than 10,000 miles and less than one year old" in the Remarks Section on the Vehicle Inspection Report.
- j) For each school bus inspected, a separate maintenance record must be maintained which contains the following:
 - 1) Person(s) name performing the brake inspection and repairs, if necessary;
 - 2) Owner/operator of the school bus;
 - 3) Date of the brake inspection/repairs;
 - 4) Vehicle identification (i.e., year, make, model, Vehicle Identification Number);
 - 5) Mileage on the school bus at the time of the brake inspection; and

- 6) Record of work performed on the bus in order to meet manufacturer's specifications (e.g., specific components repaired, replaced, adjusted, etc.).
- k) The maintenance records required in subsection (j) shall be retained where the vehicle is either housed or maintained for a period of one year and for six months after the school bus leaves the owner/operator's control.
- l) The maintenance records shall be available for inspection and audit by officers of the Department at any time.

Section 447.Illustration A School Bus Brake Inspection Report

PART I • Inspection Procedures for Type I School Buses

ILLUSTRATION C – BRAKE INSPECTION REPORT



**Illinois Department
of Transportation**
Division of Traffic Safety
3215 Executive Park Drive
P.O. Box 19212
Springfield, Illinois 62794-9212

**School Bus Brake
Inspection Report**

District or Contractor:

Name _____

Address _____

City/State _____ Zip _____ Telephone (____) _____

School Bus Unit Number _____ Chassis Make _____

Chassis Year _____ Chassis V.I.N. _____

Illinois law requires all school buses to be safety inspected at least once every six months or 10,000 miles, whichever occurs first. In addition, the Illinois Department of Transportation requires that a visual brake inspection be performed on every school bus operated in Illinois at least once a year or every 10,000 miles, whichever occurs first.

A completed School Bus Brake Inspection Report must be presented to the Certified Safety Tester each time a school bus is taken to an Official Testing Station for a safety inspection.

I attest that the entire brake system on the school bus listed above was visually inspected and found to be operating in accordance with the manufacturer's specifications or was repaired to perform in accordance with the manufacturer's specifications. The visual inspection of the brake system was performed on _____ by a qualified

mechanic employed by _____ (Business/school district where brake inspection was completed) The mileage

on this school bus was _____ when the visual brake inspection was performed.
(mileage)

(name of authorized school district official or contractor)

Please print or type

(date)

(signature of authorized school district official or contractor)

(title)

TS 2258 (3/94)

TITLE 92: TRANSPORTATION
CHAPTER I: DEPARTMENT OF TRANSPORTATION
SUBCHAPTER e: TRAFFIC SAFETY (EXCEPT HAZARDOUS MATERIALS)

PART 449
ALTERNATE FUEL SYSTEMS FOR SCHOOL BUSES

Section

- 449.10 Purpose and Scope
- 449.20 Application
- 449.30 Installation, Maintenance and Operation
- 449.40 Container Installation
- 449.50 Carburetion Equipment
- 449.60 Pipe and Hose Installation
- 449.70 Identification

AUTHORITY: Implementing and authorized by Section 12-812.1 of the Illinois Vehicle Equipment Law [625 ILCS 5/12-812.1].

SOURCE: Adopted at 14 Ill. Reg. 3686, effective February 26, 1990; amended at 19 Ill. Reg. 16732, effective December 1, 1995.

Section 449.10 Purpose and Scope

- a) This Part governs the use of liquefied petroleum gases (LPG) and compressed natural gas (CNG) as propellant fuel in school buses. The installation, maintenance and operation of such fuel systems are covered by this Part.
- b) The installation of an alternate fuel system, using compressed or liquefied gases, shall not conflict with any Federal Motor Vehicle Safety Standard or any requirements of this Subchapter applicable to school buses.

Section 449.20 Application

- a) This Part applies to any school bus which is equipped to use any liquefied petroleum gas or compressed natural gas as a fuel propellant and began operation on or after February 26, 1990.
- b) This Part does not apply to any school bus which was equipped to use any liquefied petroleum gas or compressed natural gas as a fuel propellant before February 26, 1990.

(Source: Amended at 19 Ill. Reg. 16732, effective December 1, 1995)

Section 449.30 Installation, Maintenance and Operation

- a) No person may operate a school bus which is equipped to use Liquefied Petroleum Gas as a fuel propellant unless the installation, maintenance and operation is in accordance with the National Fire Protection Association's (NFPA) Standard for the Storage and Handling of Liquefied Petroleum Gases, NFPA 58, February 6, 1989, not including any later editions or amendments.
- b) No person may operate a school bus which is equipped to use Compressed Natural Gas as a fuel propellant unless the installation, maintenance and operation of the fuel system is in accordance with NFPA 52, Standard for Compressed Natural Gas, (CNG) Vehicular Fuel Systems, June 8, 1988, not including any later amendments or editions.

Section 449.40 Container Installation

In addition to the requirements established by Section 449.30, installation shall comply with the following:

- a) Compressed or liquefied gas containers shall not be mounted in the passenger or driver's compartment.
- b) Container valves, appurentances and connections shall be mounted in an enclosed compartment.
- c) Containers shall be located at least 36 inches from the entrance door and any emergency exit. Due to the smaller size of Type II school buses, space limitations may sometimes make it impossible to locate a fuel tank further than 36 inches from an exit. IA Type II school bus has a gross vehicle weight rating of

10,000 pounds or less as defined in Section 12-800 of the Illinois Vehicle Equipment Law (Ill. Rev. Stat. 1987, ch. 95 1/2, par. 12-800). If the original fuel tank for a Type II bus was located within 36 inches from any exit, the alternate fuel container may be located in the same location as the original tank.

Section 449.50 Carburetion Equipment

A fuel filter is required on alternate fuel systems.

Section 449.60 Pipe and Hose Installation

In addition to the requirements established by Section 449.30, pipes and hoses installed on school buses for operation of an alternate fuel system shall comply with the following:

- a) No fuel supply line shall pass through the driver or passenger's compartment.
- b) The pressure relief device shall be fabricated so that in the event of stress, the pipe or adaptor will break away without impairing the function of the relief valve.
- c) If installed, the adaptor connecting the piping system to the pressure relief device shall neither touch nor restrict any movable part of the pressure relief valve.
- d) The relief valve discharge piping system (piping system) must not be reduced at any point from the relief valve to the point of release into the atmosphere.
- e) The piping system shall be routed to minimize sharp elbows or bends. Installation of any commercially available piping installed to meet the manufacturer's specifications is acceptable. Any fittings that restrict the flow of discharge are prohibited. From the pressure relief device adaptor to the atmosphere, the minimum inside diameter of the piping must measure at least 3/4 of an inch.
- f) The piping system shall neither block nor hamper the operation of any window or door. The piping system shall preserve widths of passageways, aisles and emergency exits.
- g) Every portion of the piping system shall be gas tight (except the outlet) and shall be able to withstand forces from the discharge when the relief valve is in full open position. If for any reason the discharge outlet becomes blocked, the piping system must be capable of holding the full system pressure.
- h) To facilitate the removal of accumulated water, a drain cock shall be installed at the lowest point of the piping system. The drain must be capable of being held open manually and close automatically to prevent expelling LPG if discharged through the relief valve. A weep hole, or other opening that may result in discharged LPG flaming beneath the bus is prohibited.
- i) The portion of the piping system that leads upward to the atmosphere shall be installed either inside the passenger compartment, on the outside of the bus, or in the body wall between the inner and outer "skins" of the bus body.

- 1) Piping on the outside of the body shall be shielded below the window line to prevent "grabbing hold" or "hitching to." However, discharge piping that is located between the windshield and the vent window at the left front corner of the body need not be shielded.
 - 2) Any portion of the piping system that is installed either inside the passenger compartment or inside the body wall shall consist of one piece originating below the bus floor and exiting outside the bus roof. Every hole where piping passes through the floor or roof shall be sealed.
- j) The piping system must terminate above the eave lines of the bus body.
 - k) The outlet of the piping system shall be located at least 36 inches from the air inlet or outlet of a ventilator or similar device installed on or near the roof. A "similar device" includes the fresh air intake of a heating, ventilating or air conditioning system. It does not include a side window that opens near the roof.
 - l) A rain cap is required where the piping system exits into the atmosphere to minimize water or dirt from entering into either the relief valve or its discharge piping. Installation of any commercially available rain cap installed to meet the manufacturer's specifications is acceptable. The cap shall remain in place except when the relief valve operates. The cap shall be installed to minimize the entrance of water or dirt while the vehicle is in motion.
 - m) The discharge piping system on a special education school bus shall conform to all provisions of this Part.

Section 449.70 Identification

The fuel identification decal as required by Section 3-6.2.10 of NFPA 58 or Section 3-10.2 of NFPA 52 shall be displayed on the rear of the school bus not more than 12 inches above the top of the rear bumper and within 39 inches of the left side. The decal shall not be placed on any black portion of the bus body.

TITLE 92: TRANSPORTATION
CHAPTER I: DEPARTMENT OF TRANSPORTATION
SUBCHAPTER e: TRAFFIC SAFETY (EXCEPT HAZARDOUS MATERIALS)

PART 456
NONSCHEDULED BUS INSPECTIONS

Section

- 456.10 Purpose and Scope
- 456.20 Application
- 456.30 Standards of Construction
- 456.40 Definitions
- 456.50 Enforcement Procedures
- 456.60 Violation Criteria for School Buses
- 456.70 Violation Criteria for Religious Organization Buses and Buses Registered as Charitable Vehicles
- 456.80 Violation Criteria for Alternate Fuel School Buses
- 456.90 Violation Criteria for Special Education School Buses

AUTHORITY: Implementing and authorized by Section 13-109 of the Illinois Vehicle Inspection Law (Ill. Rev. Stat. 1991, ch. 95 1/2, par. 13-109) [625 ILCS 5/13-109] and Section 12-812 of the Illinois Vehicle Equipment Law (Ill. Rev. Stat. 1991, ch. 95 1/2, par. 12-812) [625 ILCS 5/12-812].

SOURCE: Adopted at 15 Ill. Reg. 5894, effective April 8, 1991; amended at 16 Ill. Reg. 16649, effective October 16, 1992; amended at 17 Ill. Reg. 22070, effective December 10, 1993; amended at 18 Ill. Reg. 11650, effective July 7, 1994.

Section 456.10 Purpose and Scope

This Part prescribes the requirements and procedures used to implement the nonscheduled inspection program for school buses, buses registered as charitable vehicles and religious organization buses.

Section 456.20 Application

This Part applies to the following persons:

- a) Department Personnel;
- b) School Bus Owners or Operators;
- c) Religious Organization Bus Owners or Operators; and
- d) Owners or Operators of Buses Registered as Charitable Vehicles.

Section 456.30 Standards of Construction

- a) "Shall" and "must" are used in the imperative sense. "May" allows permissiveness under terms specified in the standards. "Will" indicates intention, promise or willingness.
- b) Words imparting the masculine gender include the feminine.
- c) Singular includes plural.

Section 456.40 Definitions

"Bus" - Every motor vehicle, other than a commuter van, designed for carrying more than ten persons.>> (Section 1-107 of the Illinois Vehicle Code (the Code) (Ill. Rev. Stat. 1991, ch. 95 1/2, par. 1-107) [625 ILCS 5/1-107]).

"Certificate of Safety" - The authorized visible symbol furnished by the Department's Commercial Vehicle Safety Section to an Official Testing Station which is to be directly affixed by a Certified Safety Tester to a vehicle which meets the minimum prescribed safety standards established by the Department's Commercial Vehicle Safety Section.

"Charitable Bus" - Any bus which is owned and operated by a charitable not-for-profit organization and is used primarily in conducting the official activities of such organization.>> (Section 1-171.01 of the Code)

"Code" - The Illinois Vehicle Code (Ill. Rev. Stat. 1991, ch. 95 1/2, pars. 1-100 et seq.) [625 ILCS 5/1-101 et seq.].

"Commercial Vehicle Safety Section (CVSS)" - A section of the Bureau of Safety Programs of the Division of Traffic Safety of the Illinois Department of Transportation.

"Department" - The Department of Transportation of the State of Illinois, acting directly or through its agents or officers. (Section 13-100 of the Illinois Vehicle Inspection Law)

"Illinois Vehicle Inspection Law (the Law)" - Ill. Rev. Stat. 1991, ch. 95 1/2, pars. 13-100 et seq. [625 ILCS 5/13-101 et seq.].

"Nonscheduled Inspection" - The Department's program used to monitor the maintenance and condition of school buses, religious organization buses and buses registered as charitable vehicles as authorized by P.A. 86-1223, effective January 1, 1991. Nonscheduled inspections are performed on a periodic basis at locations where the buses are stored or parked.

"Nonscheduled Inspection Report (NIR)" - The form used by the Department to issue nonscheduled inspection penalties.

"Official Testing Station" - All contiguous real and personal property which houses the testing lane(s) and any and all equipment and supplies relating to the safety testing of vehicles.

"Officer" - An employee of the Illinois Department of Transportation.

"Operator" - The individual responsible for the maintenance and condition of a school bus, religious organization bus or a bus registered as a charitable vehicle.

"Out-of-Service Penalty" - The most serious penalty which can be assessed. This penalty requires bus to be inspected at an Official Testing Station before being placed back in service. (Section 13-109 of the Law)

"Religious Organization Bus" - Any bus which is owned and operated by a religious organization and is used primarily in conducting the official activities of such organization. (Section 1-171.01 of the Code)

"SB 6" - The form used by school bus operators to verify that brake inspections have been performed as required by the Department.

"School Bus" -

Type I School Bus - A School Bus with a gross vehicle weight rating of more than 10,000 pounds.

Type II School Bus - A School Bus with a gross vehicle weight rating of 10,000 pounds or less. (Section 12-800 of the Illinois Vehicle Equipment Law) (Ill. Rev. Stat. 1991, ch. 95 1/2, par. 12-800) [625 ILCS 5/12-800]

Every motor vehicle, except as provided below, owned or operated by or for any of the following entities for the transportation of persons regularly enrolled as students in grade 12 or below in connection with any activity of such entity:

Any public or private primary or secondary school;

Any primary or secondary school operated by a religious institution; or

Any public, private or religious nursery school.

This definition shall not include the following:

A bus operated by a public utility, municipal corporation or common carrier authorized to conduct local or interurban transportation of passengers when such bus is not traveling a specific school bus route but is:

On a regularly scheduled route for the transportation of other fare paying passengers;

Furnishing charter service for the transportation of groups on field trips or other special trips or in connection with other special events; or

Being used for shuttle service between attendance centers or other educational facilities.

A motor vehicle of the first division. (Section 1-182 of the Code)

"Three-Day Notice Penalty" - This penalty requires violation to be corrected within three working days before Department officers return for a reinspection. (Section 13-109 of the Law)

"Warning Penalty" - This penalty requires violation to be corrected within 30 days and the appropriate copy of the NIR to be mailed to the CVSS as soon as repairs are made. (Section 13-109 of the Law)

(Source: Amended at 17 Ill. Reg. 22070, effective December 10, 1993)

Section 456.50 Enforcement Procedures

- a) The Department will conduct periodic nonscheduled inspections of school buses, of buses registered as charitable vehicles and of religious organization buses. (Section 13-109 of the Law)
- b) The nonscheduled inspections will be conducted by officers of the Department at locations where the vehicles listed in subsection (a) above are stored or parked.
- c) Nonscheduled inspections will consist of inspecting those items listed in Sections 456.60, 456.70, 456.80 or 456.90 of this Part (depending on the type of vehicle being inspected). The Department's officers will note any violation of this Part on the Nonscheduled Inspection Report (NIR) and fill in the penalty portion of the NIR according to the most serious penalty assessed. Penalties are separated into three categories: Out-of-Service, Three-Day Notice, and Warning. All violations listed on the form shall be corrected within the required period of time.

- d) The NIR consists of the original form and three copies. The original and second copy will be issued to the bus operator. The third copy will be mailed to the CVSS by the Department's officer and the fourth copy will be retained by the Department's officer.
- e) The second copy of the NIR is designed to be returned to the CVSS after either all warning violations have been corrected, or the Department's third day follow-up inspection has been completed or inspection at an Official Testing Station for an out-of-service penalty has been conducted. Refer to subsections (f), (g) or (h) below for procedures.
- f) If a nonscheduled inspection reveals that any item listed in Sections 456.60, 456.70, 456.80 or 456.90 of this Part meets the "out-of-service" criteria listed in those Sections, the Department will remove the Certificate of Safety from the vehicle and place the vehicle out-of-service. (Section 13-109(e) of the Law)
 - 1) A bright orange, triangular decal will be placed on an out-of-service vehicle where the Certificate of Safety was located. (Section 13-109(e) of the Law)
 - 2) The vehicle must pass an inspection, including presenting a valid wheel pull (SB 6) form, at an Official Testing Station before it is again placed in service. (Section 13-109(e) of the Law)
 - 3) An Out-of-Service penalty requires the second copy of the NIR to be returned to the CVSS by the bus operator after the bus passes an inspection at an Official Testing Station.
 - 4) Causing or allowing the operation of an out-of-service vehicle with passengers or unauthorized removal of an out-of-service decal is a Class 3 felony. (Section 13-109 (e) of the Law)
- g) If a nonscheduled inspection reveals that any component listed in Sections 456.60, 456.70, 456.80 or 456.90 of this Part meets the "three-day notice" criteria listed in those Sections, the Department will issue a three-day notice penalty. (Section 13-109(c) of the Law)
 - 1) A bright yellow triangular decal will be placed next to the Certificate of Safety. (Section 13-109(c) of the Law)
 - 2) Department personnel will return to the location of the vehicle after three working days to determine that the violation has been corrected and will remove the yellow decal if no violations exist. (Section 13-109(c) of the Law)
 - 3) A Three-Day Notice penalty requires the second copy of the NIR to be completed and returned to the CVSS by the Department's officer when he returns for the follow-up inspection after the third day.

- 4) If the violation is not corrected within three working days, the Department will place the vehicle out-of-service in accordance with subsection (f) above. (Section 13-109(e) of the Law)
- 5) Causing or allowing the operation of a vehicle with a three day decal for longer than three days with the decal attached or the unauthorized removal of a three day decal is a Class C misdemeanor. (Section 13-109(e) of the Law)
- h) If a nonscheduled inspection reveals that any item listed in Sections 456.60, 456.70, 456.80 or 456.90 of this Part meets the "warning" criteria listed in those Sections, the Department will issue the NIR to the bus operator with all violations listed. (Section 13-109(e) of the Law)
 - 1) The bus operator shall have all violations corrected within 30 days from the date of the nonscheduled inspection. (Section 13-109(e) of the Law)
 - 2) A Warning penalty requires the second copy of the NIR to be returned to the CVSS by the bus operator after all violations have been corrected.
 - 3) If the Department has not been advised that the corrections have been made by receipt of second copy of NIR, and the violation still exists, the Department will place the vehicle out-of-service in accordance with subsection (f). (Section 13-109(e) of the Law)
- i) If a nonscheduled inspection reveals that any item listed in Sections 456.60, 456.70, 456.80 or 456.90 of this Part warrants the issuance of a penalty, the bus operator or owner may repair or replace defective items while the Department's officers are on location. If the owner or operator chooses to repair or replace the defective item, it must be done while the officers are still on location and may not alter the officer's schedule in order to wait for any repair or correction. Any defects repaired or corrected on location will be documented on the NIR.

(Source: Amended at 17 Ill. Reg. 22070, effective December 10, 1993)

Section 456.60 Violation Criteria for School Buses

The following items will be inspected during a nonscheduled inspection. A violation of one item may only necessitate a warning while other items may require a three day notice or cause the vehicle to be declared out-of-service. Certain items have criteria listed in more than one penalty category, depending on the degree of the specific violation. If any criteria listed below exists, the corresponding penalty will be issued:

- a) Air Cleaner:
 - WARNING - missing; not properly attached.
- b) Aisle:
 - 1) OUT-OF-SERVICE - obstructed.

- 2) WARNING - does not meet minimum dimension requirements (refer to 92 Ill. Adm. Code 451.Appendix A(b)).
- c) Alternator:
 - THREE DAY - belts are torn, broken or slipping; does not meet capacity rating or electrical requirements; not functioning.
- d) Axles:
 - OUT-OF-SERVICE - not firmly attached; cracked; broken; leaking fluids; insufficient capacity (as determined by 49 CFR 568.4 (1992)).
- e) Barrier:
 - 1) OUT-OF-SERVICE - missing (if required); not solidly attached.
 - 2) WARNING - padding or covering shows wear and tear, does not meet minimum height requirements (refer to 92 Ill. Adm. Code 451.Appendix A(e)).
- f) Battery:
 - THREE DAY - excessive corrosion; not secured.
- g) Battery Cables:
 - THREE DAY - corroded; not securely attached.
- h) Battery Carrier/Compartment:
 - THREE DAY - when battery is mounted outside of engine compartment, it is not properly attached in weather-tight vented compartment; compartment door does not latch.
- i) Brakes:
 - 1) OUT-OF-SERVICE - any problem found with service brake system.
 - 2) THREE DAY - any problem found with emergency brake system.
 - 3) WARNING - any SB 6 violation (refer to 92 Ill. Adm. Code 451.Appendix A(i)(7)(A)).
- j) Bumper, Front:
 - 1) OUT-OF-SERVICE - bumper damage which interferes with tire condition or movement.
 - 2) THREE DAY - loose; broken; protruding components; does not meet thickness requirements (refer to 92 Ill. Adm. Cod 451.Appendix A(j)).

k) Bumper, Rear:

THREE DAY - loose; broken; protruding components; hitchable; does not meet thickness requirements (refer to 92 Ill. Adm. Code 451.Appendix A(k)).

l) Certificate of Safety:

OUT-OF-SERVICE - missing; expired; voided; over on mileage.

m) Certification Label, Federal:

WARNING - label is absent, defaced, destroyed, or not permanently affixed; required information is missing (refer to 92 Ill. Adm. Code 451.Appendix A(m)(1)).

n) Cleanliness:

WARNING - excessive rubble or trash.

o) Defrosters:

- 1) OUT-OF-SERVICE - does not function properly between October 2 and April 14.
- 2) THREE DAY - does not function properly between April 15 and October 1.

p) Drive Shaft Guard:

WARNING - not solid; not firmly attached; missing.

q) Emergency Exits:

- 1) OUT-OF-SERVICE - illegal locks (refer to 92 Ill. Adm. Code 451.Appendix A(q)(4)); blocked; latch broken; exit does not work; both audible and visible alarms on emergency exit door(s) do not operate; no audible alarm on emergency window exits.
- 2) THREE DAY - binding; no guard; exterior handle is hitchable; door does not seal properly; audible or visible alarms on emergency exit door(s) do not operate.

r) Engine Compartment:

THREE DAY - excessive oil in engine compartment; engine does not start or run properly.

s) Entrance Door:

- 1) OUT-OF-SERVICE - fails to close; view is obstructed; illegal locks; does not open properly; manual override is missing.
 - 2) THREE DAY - binding, jamming, over the center control not operating properly.
 - 3) WARNING - rubber seals are missing or torn.
- t) Exhaust System:
- 1) OUT-OF-SERVICE - leaks into or under passenger compartment; broken; disconnected; does not discharge in proper location.
 - 2) THREE DAY - shield is not present if required (refer to 92 Ill. Adm. Code 451.Appendix A(s)(1)); not securely attached or supported.
- u) Fenders:
- THREE DAY - protruding components; not properly attached.
- v) Fire Extinguisher:
- 1) OUT-OF-SERVICE - not fully charged; or missing.
 - 2) THREE DAY - seal is broken; improper rating; not mounted in readily accessible location; not labeled if in compartment.
- w) First Aid Kit:
- 1) THREE DAY - missing.
 - 2) WARNING - kit not complete (refer to 92 Ill. Adm. Code 451.Appendix A(w)); medicine or tourniquet is present; packages are not sealed; not mounted in readily accessible location.
- x) Floor and Floor coverings:
- THREE DAY - holes are present; sagging; broken; not firmly attached; torn covering or missing.
- y) Frame and Body:
- 1) Frame:

OUT-OF-SERVICE - broken; rusted through; structurally unsafe; sagging.
 - 2) Body:
 - A) THREE DAY - collision damage which is detrimental to the safe operation of the vehicle.

B) WARNING - rusted through; holes are present.

z) Fuel Storage and Delivery System:

- 1) OUT-OF-SERVICE - fuel tank is leaking or loose; no fuel tank guard if required (refer to 92 Ill. Adm. Code 451.Appendix A(z)(5)); fuel lines are loose, sagging, rubbing, chaffing, leaking, cracked or broken; fuel cap is missing.
- 2) THREE DAY - shield is not present if required (refer to 92 Ill. Adm. Code 451.APPENDIX A(s)(1)); alternate fuel system remains after conversion to gasoline or diesel.

aa) Grab Handles (Exterior and Interior):

WARNING - handles are missing or loose.

bb) Heaters:

- 1) THREE DAY - missing or not firmly attached.
- 2) WARNING - poor working condition; defective hoses, supports or baffles, rear heater not covered or padded; defective or missing switches.

cc) Hood:

THREE DAY - does not open; defective latches or hinges.

dd) Horn:

OUT-OF-SERVICE - missing; defective; not audible.

ee) Instruments and Instrument Panel:

- 1) OUT-OF-SERVICE - brake failure indication gauges or devices do not operate properly or are missing.
- 2) THREE DAY - odometer, directional signal, eight-light flasher indicator, or high beam indicator do not operate properly or are missing; switches are defective or missing.

ff) Lettering:

WARNING - lettering is missing, incorrect location, not black, distinct, or allowed.

gg) Light(s) (refer to 92 Ill. Adm. Code 451.Appendix A(hh) for proper colors):

1) Backup:

THREE DAY - do not function; improper color; broken lens or other component.

- 2) Clearance:

WARNING - do not function; improper color; broken lens or other component.
- 3) Cluster:

WARNING - do not function; improper color; broken lens or other component.
- 4) Flashing 8-light system:

OUT-OF-SERVICE - do not function; improper color; broken lens or other component.
- 5) Headlights:
 - A) OUT-OF-SERVICE - do not function; improper color.
 - B) WARNING - broken lens.
- 6) Interior:

WARNING - do not function; improper color; broken lens or other component.
- 7) License Plate:

WARNING - does not function; improper color; broken lens or other component.
- 8) Marker:

WARNING - do not function; improper color; broken lens or other component.
- 9) Parking:

WARNING - do not function; improper color; broken lens or other component.
- 10) Stepwell:

WARNING - does not function; improper color; broken lens or other component.
- 11) Stop/Brake:
 - A) OUT-OF-SERVICE - do not function.

- B) THREE DAY - improper color; broken lens or other component.
- 12) Strobe (optional):
 - WARNING - location is incorrect (refer to 92 Ill. Adm. Code 451.Appendix A(hh)(15)); shielding is present.
- 13) Tail:
 - A) OUT-OF-SERVICE - do not function;
 - B) THREE DAY - improper color; broken lens or other component.
- 14) Turn Signal:
 - A) OUT-OF-SERVICE - do not function;
 - B) THREE DAY - improper color; broken lens or other component.
- hh) Locked Compartment:
 - THREE DAY - not readily accessible to driver; lettering or identification is missing; alarm does not function when compartment is locked and engine is running (only when fire extinguisher, warning devices, or first aid kit are stored in locked compartment).
- ii) Mirrors:
 - 1) OUT-OF-SERVICE - missing;
 - 2) WARNING - broken or cracked; clouded; loose mounting; not approved.
- jj) Paint Requirement:
 - WARNING - does not meet color requirements (refer to 92 Ill. Adm. Code 451.Appendix A (kk)); poor condition.
- kk) Pedals (Accelerator, Brake and Clutch):
 - THREE DAY - missing; damaged; altered.
- ll) Pre-trip Book:
 - WARNING - missing; improper completion or distribution.
- mm) Projections:
 - 1) Exterior:
 - THREE DAY - hitchable; dangerous to pedestrians.

- 2) Interior:
 - THREE DAY - not padded (if required); interfere with entering or exiting the bus.
- nn) Reflectors:
 - 1) THREE DAY - missing.
 - 2) WARNING - damaged; not properly located.
- oo) Rub Rails:
 - WARNING - missing; damaged.
- pp) Seat Belts:
 - 1) OUT-OF-SERVICE - missing or broken if required (refer to 92 Ill. Adm. Code 451.Appendix A(oo) and Appendix B(oo)); buckle does not operate properly; required number of belts not present (refer to 92 Ill. Adm. Code 451.Appendix B(oo)).
 - 2) WARNING - driver's retractor does not operate properly; optional seat belts do not meet requirements.
- qq) Seat, Driver's:
 - 1) OUT OF SERVICE broken; loose; missing.
 - 2) WARNING - damaged covering; not adjustable.
- rr) Seat, Passenger's:
 - 1) OUT-OF-SERVICE - missing barrier (if required) (refer to 92 Ill. Adm. Code 451.Appendix A(e)); loose; broken frame or components.
 - 2) WARNING - incorrect height (refer to 92 Ill. Adm. Code 451.Appendix A(qq)); damaged covering; loose seat cushion.
- ss) Steering System:
 - 1) Exterior:
 - A) Linkage Components:
 - OUT-OF-SERVICE - bent; welded repairs; loose; insecurely mounted or missing.
 - B) Steering Components:

OUT-OF-SERVICE - loose, leaking, binding, frayed, cracked, inoperative power or power-assist unit or missing.

2) Interior:

A) OUT-OF-SERVICE - column support bracket is loose or missing; excessive up and down movement in steering shaft; excessive damage to steering wheel; spokes are missing.

B) THREE DAY - lash exceeds acceptable limits (refer to 92 Ill. Adm. Code 451.Appendix A(rr)(2)(B)).

tt) Steps, Entrance:

1) OUT-OF-SERVICE - broken, rusted through.

2) WARNING - sagging, damaged ribbing.

uu) Stop Arm Panel:

1) OUT-OF-SERVICE - missing; lights not functioning; panel does not function.

2) THREE DAY - not operating properly; incorrect panel; lights not flashing alternately.

3) WARNING - incorrect paint (refer to 92 Ill. Adm. Code 451.APPENDIX A(tt)); poor condition.

vv) Sun Visor:

WARNING - broken; damaged; missing.

ww) Suspension:

1) Shocks:

A) OUT-OF-SERVICE - broken; missing; broken mounts.

B) THREE DAY - leakage; loose mounting.

2) Springs:

OUT-OF-SERVICE - broken; damaged; loose; missing.

xx) Tow Hooks (optional):

WARNING - extend beyond bumper; not securely attached.

yy) Warning Devices:

WARNING - missing; reflectors are cracked or broken; flags are ripped or torn; emergency triangles are not operational.

zz) Wheels:

1) Housing:

- A) OUT-OF-SERVICE - tire rubs against any portion of chassis, body or bumper.
- B) THREE DAY - do not meet clearance requirements; not firmly secured; holes are present.

2) Rim:

OUT-OF-SERVICE - cracked; broken; elongated holes; missing lug nuts; lock ring damaged; bent.

3) Tires (refer to 92 Ill. Adm. Code 451.Appendix A (bbb)(3)):

A) Steering axle:

- i) OUT-OF-SERVICE - regrooved, recapped, retreaded; restricting markings are present; insufficient tread depth; broken or cut cord; any sign of carcass failure; tires are not same construction; regular and mud/snow tread are mixed; radial and bias ply tires are used incorrectly; bias tube installed on radial; valve stem is damaged.
- ii) WARNING - flat tire.

B) Drive axle:

- i) OUT-OF-SERVICE - missing; insufficient tread depth; broken or cut cord.
- ii) THREE DAY - radial and bias ply tires are used incorrectly; regular and mud/snow tread are improperly mixed on same axle; tire exceeds diameter of its mate; regrooved or recut on tire not labeled "regroovable"; bias tube installed on radial; damaged valve stem.
- iii) WARNING - flat tire.

aaa) Windows:

- 1) OUT-OF-SERVICE - windshield is missing or shattered.
- 2) THREE DAY - not properly marked with "AS" rating (refer to 92 Ill. Adm. Code 451.Appendix A (ccc)); operating mechanisms do not function;

alarms do not function, if required; glass is cracked or broken; visibility is obstructed; emergency opening requirements are not met (refer to 92 Ill. Adm. Code 451.Appendix A (ccc)(1) and (3)); not firmly sealed or attached; 1 1/2 inches or more "star chip"; missing; incorrect size.

- 3) WARNING - stop lines are missing.

bbb) Windshield Washer:

WARNING - does not operate properly; no fluid.

ccc) Windshield Wiper:

- 1) OUT-OF-SERVICE - wipers do not operate.
- 2) WARNING - does not cover entire cleaning area; blades are damaged; does not park properly.

ddd) Wiring (Interior and Exterior):

WARNING - insulation is broken, frayed, or missing; fuses or breakers are not present (refer to 92 Ill. Adm. Code 451.Appendix A(p)); not securely attached; not on proper circuit.

(Source: Amended at 18 Ill. Reg. 11650, effective July 7, 1994)

Section 456.70 Violation Criteria for Religious Organization Buses and Buses Registered as Charitable Vehicles

a) Brakes:

- 1) OUT-OF-SERVICE - any problem found with the service brake system.
- 2) THREE DAY - any problem found with emergency brake system.

b) Bumpers:

- 1) OUT-OF-SERVICE - missing.
- 2) THREE DAY - loose; broken; protruding components.

c) Certificate of Safety:

OUT-OF-SERVICE - missing; expired; or voided.

d) Emergency Exits:

- 1) OUT-OF-SERVICE - obstructed; does not comply with required number of exits (refer to 92 Ill. Adm. Code 448.Appendix C); latch broken; does not open fully; missing components.

- 2) THREE DAY - binding; does not seal properly.
- e) Exhaust System:
 - OUT-OF-SERVICE - leaks into or under passenger compartment; broken; disconnected; not securely attached.
- f) Fenders:
 - THREE DAY - protruding components; not securely attached; missing.
- g) Fire Extinguisher:
 - 1) OUT-OF-SERVICE - not fully charged; missing.
 - 2) THREE DAY - seal is broken; not mounted in readily accessible location; not labeled if in compartment; improper rating.
- h) Floor, Floor Covering, Firewall and Occupant Compartment:
 - THREE DAY - holes are present; sagging; torn covering.
- i) Frame and Body:
 - 1) Frame:
 - OUT-OF-SERVICE - broken; rusted through; structurally unsafe; sagging.
 - 2) Body:
 - WARNING - rusted through; protruding object; any component loose, missing or broken.
- j) Fuel Storage and Delivery System:
 - OUT-OF-SERVICE - fuel tank is leaking or loose; fuel lines are loose, leaking, sagging, rubbing, chaffing, cracked or broken; fuel cap is missing.
- k) Hood:
 - THREE DAY - does not open; defective latches or hinges.
- l) Horn:
 - OUT-OF-SERVICE - missing; defective; not audible.
- m) Lettering:

WARNING - signs or words "SCHOOL BUS"; emergency exits are not labelled (if required); operating instructions are not present on emergency exits (if required); "NO STANDEES" not present (if required) (refer to 92 Ill. Adm. Code 448.Appendix C).

n) Light(s):

1) Headlamps:

- A) OUT-OF-SERVICE - do not function.
- B) WARNING - broken lens on replaceable light source; improper color.

2) License Plate:

WARNING - does not function; improper color; broken lens or other component.

3) Parking/Marker:

WARNING - do not function; improper color; broken lens or other component.

4) Stop/Brake:

- A) OUT-OF-SERVICE - do not function.
- B) THREE DAY - improper color; broken lens or other component.

5) Tail:

- A) OUT-OF-SERVICE - do not function.
- B) THREE DAY - improper color; broken lens or other component.

6) Turn Signal:

- A) OUT-OF-SERVICE - do not function.
- B) THREE DAY - improper color; broken lens or other component.

7) Unison Flashing Amber Warning System (Optional on Religious Organization Buses only):

WARNING - lens is improper color; system flashes alternately; not made inoperative if charitable bus.

o) Mirrors:

- 1) OUT-OF-SERVICE - missing.

- 2) WARNING - broken or cracked; clouded; loose mounting.
- p) Paint:
 - WARNING - school bus yellow.
- q) Reflectors:
 - 1) THREE DAY - missing.
 - 2) WARNING - damaged; not properly located (refer to 92 Ill. Adm. Code 448.Appendix A).
- r) Seats:
 - OUT-OF-SERVICE - driver's seat adjusting mechanism slips out of place; any seat is loose or broken.
- s) Steering System:
 - 1) Exterior:
 - OUT-OF-SERVICE - linkage components are bent; welded repairs; loose; insecurely mounted or missing. Steering components are loose, leaking, frayed, cracked, inoperative power unit or missing.
 - 2) Interior:
 - A) OUT-OF-SERVICE - column support bracket is loose or missing; excessive up and down movement in steering shaft; excessive damage to steering wheel; spokes are missing.
 - B) THREE DAY - lash exceeds acceptable limits (refer to 92 Ill. Adm. Code 448.Appendix A).
- t) Stop Arm Panel:
 - WARNING - present.
- u) Suspension:
 - 1) Shocks:
 - A) OUT-OF-SERVICE - broken; missing; broken mounts.
 - B) THREE DAY - leakage; loose mounting.
 - 2) Springs:

OUT-OF-SERVICE - missing; broken; damaged, loose.

v) Warning Devices:

WARNING - missing; reflectors are cracked or broken; flags are ripped or torn; emergency triangles are not operational.

w) Wheels:

1) Rim:

OUT-OF-SERVICE - cracked; broken; elongated holes; missing lug nuts; lock ring damaged; bent.

2) Tires (refer to 92 Ill. Adm. Code 448.Appendix A):

A) Steering axle:

i) OUT-OF-SERVICE - regrooved, recapped, retreaded; restricting markings are present; insufficient tread depth; broken or cut cord; any sign of carcass failure; tires are not same construction; regular and mud/snow tread are mixed; radial and bias ply tires are used incorrectly; bias tube installed on radial; valve stem is damaged.

ii) WARNING - flat tire.

B) Drive axle:

i) OUT-OF-SERVICE - missing; insufficient tread depth; broken or cut cord.

ii) THREE DAY - radial and bias ply tires are used incorrectly; regular and mud/snow tread are improperly mixed on same axle; tire exceeds diameter of its mate; regrooved or recut on tire not labeled "regroovable"; bias tube installed on radial; damaged valve stem.

iii) WARNING - flat tire.

x) Windows:

THREE DAY - not properly marked with "AS" rating (refer to 92 Ill. Adm. Code 448.Appendix A); operating mechanisms do not function; glass is cracked or broken; visibility is obstructed; emergency opening requirements are not met (refer to 92 Ill. Adm. Code 448.Appendix C); not firmly sealed or attached.

y) Windshield Washer:

WARNING - does not operate properly; no fluid.

- z) Windshield Wiper:
 - 1) OUT-OF-SERVICE - wipers do not operate.
 - 2) THREE DAY - does not cover entire cleaning area; blades are damaged; does not park properly.

aa) Wiring (Interior and Exterior):

Insulation:

WARNING - broken, frayed, not securely attached or missing.

(Source: Amended at 18 Ill. Reg. 11650, effective July 7, 1994)

Section 456.80 Violation Criteria for Alternate Fuel School Buses

a) Pipe Hose and Fittings:

- 1) OUT-OF-SERVICE - incorrect pipe size; fuel supply line which passes through driver or passenger compartment; reduced piping system; incorrect piping material; piping system blocks or hampers window or door; piping system is not located at least 36 inches from air inlet or outlet; missing drain cock; missing rain cap; piping system is not one piece originating below the bus floor and exiting outside the bus roof; holes where pipe exits or enters are not sealed; piping system does not terminate above the eave line or does extend above the roof of the bus.
- 2) THREE DAY - alternate fuel system remains after conversion to gasoline or diesel.
- 3) WARNING - Shielding is not present on piping outside the body below the window line.

b) Container and Container Appurtenances:

OUT-OF-SERVICE - Incorrect location; valves, appurtenances and connections are not mounted in enclosed compartment.

c) Identification Decal:

WARNING - missing.

(Source: Amended at 17 Ill. Reg. 22070, effective December 10, 1993)

Section 456.90 Violation Criteria for Special Education School Buses

a) Restraining or Safety Devices:

WARNING - not securely fastened; missing when required.

b) Special Service Door:

WARNING - does not operate properly; does not meet requirements (refer to 92 Ill. Adm. Code 451.Appendix C and D(c)); audible or visible alarm does not work or is missing.

c) Lifts and Ramps:

OUT-OF-SERVICE - does not operate properly; does not meet requirements (refer to 92 Ill. Adm. Code 451.Appendix C and D (e)).

d) Fastening Devices:

OUT-OF-SERVICE - do not secure wheelchair.

e) Special Light:

WARNING - missing; does not operate properly.

f) Grab Handles:

WARNING - not securely attached; do not meet requirements (refer to 92 Ill. Adm. Code 451.Appendix C and D (h)).

(Source: Added at 16 Ill. Reg. 16649, effective October 19, 1992)

TITLE 92: TRANSPORTATION
CHAPTER I: DEPARTMENT OF TRANSPORTATION
SUBCHAPTER e: TRAFFIC SAFETY (EXCEPT HAZARDOUS MATERIALS)

PART 458
SCHOOL BUS DRIVER'S PRETRIP INSPECTION REQUIREMENTS

Section	
458.1000	Purpose
458.1010	Applicability
458.1020	Definitions
458.1030	Driver Requirements

ILLUSTRATION A School Bus Driver's Pretrip Inspection Form

AUTHORITY: Implementing and authorized by Section 13-115 of the Illinois Vehicle Inspection Law [625 ILCS 5/13-115, as amended by P.A. 89-658, effective August 14, 1996].

SOURCE: Adopted at 21 Ill. Reg.13664, effective October 1, 1997.

Section 458.1000 Purpose

This Part prescribes the pretrip inspection requirements a school bus driver must follow each day a school bus is operated.

Section 458.1010 Applicability

This Part applies to the following persons:

- a) School bus drivers;
- b) School bus owners and operators;
- c) Mechanics performing repairs and adjustments on school buses; and
- d) Department personnel.

Section 458.1020 Definitions

"Code" - The Illinois Vehicle Code [625 ILCS 5].

"Department" - *The Department of Transportation of the State of Illinois, acting directly or through its authorized agents or officers.* (Section 13-100 of the Code)

"Officer" - An employee of the Illinois Department of Transportation.

"School Bus" - *Every motor vehicle, except as provided below, owned or operated by or for any of the following entities for the transportation of persons regularly enrolled as students in grade 12 or below in connection with any activity of such entity:*

*Any public or private primary or secondary school;
Any primary or secondary school operated by a religious institution; or
Any public, private or religious nursery school.*

This definition shall not include the following:

A bus operated by a public utility, municipal corporation or common carrier authorized to conduct local or interurban transportation of passengers when such bus is not traveling a specific school bus route but is:

On a regularly scheduled route for the transportation of other fare paying passengers;

Furnishing charter service for the transportation of groups on field trips or other special trips or in connection with other special events; or

Being used for shuttle service between attendance centers or other educational facilities.

A motor vehicle of the first division.

A motor vehicle designed for the transportation of not less than 7 nor more than 16 persons that is operated by or for a public or private primary or secondary school, including any primary or secondary school operated by a religious institution, for the purpose of transporting not more than 15 students to and from interscholastic athletic or other interscholastic or school sponsored activities. (Section 1-182 of the Code.)

"School Bus Driver" - Any person who is licensed to operate a school bus pursuant to Section 6-106.1 of the Illinois Vehicle Code [625 ILCS 5/6-106.1].

"School Bus Pretrip Inspection" - The inspection performed by a school bus driver on his/her school bus prior to the bus being operated each day. Some components may be inspected by persons other than the driver. The inspection consists of checking mechanical and safety items on the bus.

"School Bus Driver Pretrip Inspection Form" - The form prescribed by the Department to be used by school bus drivers to perform the required pretrip inspection. The form contains all of the vehicle's components which must be inspected by the driver. (See Section 458.Illustration A)

"School Bus Mechanic" - Any person authorized by the school bus owner/operator to make necessary repairs and adjustments on a school bus. May also be responsible for inspecting mechanical components during the pretrip inspection.

Section 458.1030 Driver Requirements

- a) *Each day that a school bus is operated the driver shall conduct a pretrip inspection of the mechanical and safety equipment on the bus as prescribed by this Part. A person other than the driver may perform portions of the pretrip inspection as prescribed by this Part. (Section 13-115 of the Illinois Vehicle Inspection Law, as amended by Public Act 89-658)*
- b) The pretrip inspection shall consist of inspecting mechanical and safety equipment on the school bus. (See Section 458.Illustration A for specific equipment listed.)
- c) The pretrip inspection shall be performed each day a school bus is operated. If the same driver operates the same bus more than once a day, a new inspection is not required for each subsequent trip.
- d) If a bus is operated by a different driver for any subsequent trips during the day, an additional pretrip inspection is required. If a driver is required to complete

his/her route in a bus different than the one he/she started the route in, a complete pretrip inspection must be performed on the replacement bus.

- e) The driver is required to complete a School Bus Driver's Pretrip Inspection Form (the Form) each time an inspection is performed. Any defects found on the bus must be recorded on the Form.
- f) The following items can be inspected during the pretrip by someone other than the driver (e.g., school bus mechanic). The driver is responsible for verifying these items are inspected as required. Verification is provided by the driver's signature on the Form.
 - 1) Oil;
 - 2) Coolant;
 - 3) Battery;
 - 4) Transmission Fluid;
 - 5) Master Cylinder Brake Fluid;
 - 6) Power Steering Fluid;
 - 7) Washer Fluid;
 - 8) All belts (e.g., fan, alternator, power steering); and
 - 9) Wiring.
- g) If any person other than the driver inspects any item listed in subsection (f) of this Section, that person must provide his or her signature on the Form. Items listed in subsection (f) may be inspected the evening prior to the day the bus will be used for a trip. The Form must indicate the date the components listed in subsection (f) are inspected. If items listed in subsection (f) are inspected on the previous day, the bus cannot be driven between the time the components listed in subsection (f) are inspected and the first trip of the next day.
- h) If defects are discovered, the driver must notify the school bus owner/operator so the defects can be corrected.
- i) The Department recommends that all defects be corrected before any bus is used to transport children. Each school district or contractor must establish policies to govern procedures which are to be followed when any component is found to be unsatisfactory.
- j) Each day before a school bus is operated, the driver must examine the previous Form to verify all defects have been corrected. If all defects have not been corrected, the driver must immediately notify the school bus owner/operator or his or her designee.
- k) The Form shall be completed in duplicate.
- l) The original form shall be presented to the school bus owner/operator, or his or her designee, each day an inspection is completed. The owner/operator, or his or her designee, shall be responsible for insuring the repairs/adjustments are made as soon as practicable.

- m) After any repairs are made, the school bus mechanic performing the repairs/adjustments must sign and date the Form.
- n) The original copy shall be maintained by the owner/operator for one hundred and eighty days from the date of inspection.
- o) The duplicate copy shall remain in the bus for thirty days from the date of inspection.
- p) The original Forms shall be organized in an orderly fashion and made available for inspection at any time by officers of the Department as authorized in 92 Ill. Adm. Code 456.60(II).
- q) The owner/operator is responsible for providing Forms to the drivers.
- r) Each school bus must be equipped with an adequate supply of Forms.
- s) Forms are typically organized in a booklet format. Each booklet contains a number of Forms. Each bus shall have one booklet assigned to it. The booklet must stay on the bus until each duplicate copy has remained on the bus for at least 30 days (see subsection (o) of this Section).
- t) Forms must not be filled out in advance and each individual component must be checked or marked while the Form is being completed. If a component listed in Section 458.Illustration A was not present on the bus at the time of manufacture (e.g., clutch), the item must be marked out and "Not Applicable" or "N/A" must be written beside the component.
- u) A copy of Section 458.Illustration A can be used or a form can be developed which contains all the information found in Section 458.Illustration A. Additional components may be added to the components listed in Section 458.Illustration A as the bus owner/operator deems necessary (e.g., wheelchair lift).
- v) The Department must approve all variations of Section 458.Illustration A before a form other than Section 458.Illustration A can be used. Forms submitted for approval must be submitted to: Vehicle Inspection Unit Manager, Illinois Department of Transportation, Division of Traffic Safety, 3215 Executive Park Drive, P.O. Box 19212, Springfield, IL 62794-9212.
- w) The Form shall contain general information about the bus as well as list the items which are required to be inspected by the driver (see Section 458.Illustration A). A Remarks Section must be provided for the driver to detail specific defects. A signature line must be provided for the driver and, if applicable, the mechanic who performed any inspection of mechanical components. A signature and date line must also be provided for the school bus mechanic performing any repairs/adjustments.
- x) Inventory of preprinted Forms may be used, in the manner previously authorized, until depleted or until August 1, 1998.

- y) The form shown in Section 458.Illustration A may be used on or after October 1, 1997; however, the form shown in Section 458.Illustration A is mandatory on or after August 1, 1998.

Agency Note: If the bus is not being used as a school bus (e.g., is being driven to obtain maintenance/repair work), this Part does not apply.

Section 458.Illustration A School Bus Driver's Pretrip Inspection Form

SCHOOL BUS DRIVER'S PRETRIP INSPECTION FORM

School District or Contractor's Name _____

Bus Identification No. _____ Date _____ Time _____

PLEASE CHECK "S" FOR SATISFACTORY OR "U" FOR UNSATISFACTORY. CHECK (☒) EACH COMPONENT CAREFULLY AND INDIVIDUALLY.

Open Hood and Check:

S	U	
<input type="checkbox"/>	<input type="checkbox"/>	Oil
<input type="checkbox"/>	<input type="checkbox"/>	Coolant
<input type="checkbox"/>	<input type="checkbox"/>	Battery
<input type="checkbox"/>	<input type="checkbox"/>	Transmission Fluid
<input type="checkbox"/>	<input type="checkbox"/>	Master Cylinder Brake Fluid

S	U	
<input type="checkbox"/>	<input type="checkbox"/>	Power Steering Fluid
<input type="checkbox"/>	<input type="checkbox"/>	Washer Fluid
<input type="checkbox"/>	<input type="checkbox"/>	All Belts
<input type="checkbox"/>	<input type="checkbox"/>	Wiring

With Engine Running, Driver Activates All Exterior Lights, Walks Around the Bus and Checks:

S	U	
<input type="checkbox"/>	<input type="checkbox"/>	Right Front Wheel and Tire
<input type="checkbox"/>	<input type="checkbox"/>	Right Side Marker and Turn Signal Lights
<input type="checkbox"/>	<input type="checkbox"/>	Right Side Reflectors
<input type="checkbox"/>	<input type="checkbox"/>	Right Side Rear View and Safety Mirrors
<input type="checkbox"/>	<input type="checkbox"/>	Crossing Control Arm (if applicable)
<input type="checkbox"/>	<input type="checkbox"/>	Headlights (high/low beams)
<input type="checkbox"/>	<input type="checkbox"/>	Front Turn Signal Lights
<input type="checkbox"/>	<input type="checkbox"/>	Front Clearance Lights
<input type="checkbox"/>	<input type="checkbox"/>	Front Identification/Cluster Lights
<input type="checkbox"/>	<input type="checkbox"/>	Front Eight Light Flashing System
<input type="checkbox"/>	<input type="checkbox"/>	Front Reflectors
<input type="checkbox"/>	<input type="checkbox"/>	Windshield
<input type="checkbox"/>	<input type="checkbox"/>	Underside of Chassis
<input type="checkbox"/>	<input type="checkbox"/>	Crossover Mirror(s)
<input type="checkbox"/>	<input type="checkbox"/>	Left Side Rear View and Safety Mirrors
<input type="checkbox"/>	<input type="checkbox"/>	Left Front Wheel and Tire
<input type="checkbox"/>	<input type="checkbox"/>	Driver's Side Window
<input type="checkbox"/>	<input type="checkbox"/>	Slop Arm Panel
<input type="checkbox"/>	<input type="checkbox"/>	Left Side Marker and Turn Signal Lights
<input type="checkbox"/>	<input type="checkbox"/>	Left Side Reflectors
<input type="checkbox"/>	<input type="checkbox"/>	Side Emergency Door (open & close) (if applicable)
<input type="checkbox"/>	<input type="checkbox"/>	Left Rear Wheel(s) and Tire(s)
<input type="checkbox"/>	<input type="checkbox"/>	Exhaust System (tail pipe clear?)
<input type="checkbox"/>	<input type="checkbox"/>	Rear Tail/Brake Lights
<input type="checkbox"/>	<input type="checkbox"/>	Rear Turn Signal Lights
<input type="checkbox"/>	<input type="checkbox"/>	Rear Clearance Lights
<input type="checkbox"/>	<input type="checkbox"/>	Rear Identification/Cluster Lights
<input type="checkbox"/>	<input type="checkbox"/>	Rear Eight Light Flashing System
<input type="checkbox"/>	<input type="checkbox"/>	Rear Reflectors
<input type="checkbox"/>	<input type="checkbox"/>	Strobe Light (if applicable)
<input type="checkbox"/>	<input type="checkbox"/>	Rear Emergency Door (open & close) (if applicable)
<input type="checkbox"/>	<input type="checkbox"/>	Right Rear Wheel(s) and Tire(s)
<input type="checkbox"/>	<input type="checkbox"/>	Fuel Tank Filler Caps
<input type="checkbox"/>	<input type="checkbox"/>	Emergency Exit Reflective Tape (if applicable)

Signature of person performing above inspection if not the driver / Date _____

Driver Enters Bus and Checks:

S	U	
<input type="checkbox"/>	<input type="checkbox"/>	Steps
<input type="checkbox"/>	<input type="checkbox"/>	Cleanliness
<input type="checkbox"/>	<input type="checkbox"/>	Seats
<input type="checkbox"/>	<input type="checkbox"/>	Seat Belts (if applicable)
<input type="checkbox"/>	<input type="checkbox"/>	Windows

S	U	
<input type="checkbox"/>	<input type="checkbox"/>	Warning Devices
<input type="checkbox"/>	<input type="checkbox"/>	Fuses
<input type="checkbox"/>	<input type="checkbox"/>	First Aid Kit
<input type="checkbox"/>	<input type="checkbox"/>	Fire Extinguisher
<input type="checkbox"/>	<input type="checkbox"/>	Lettering

Record odometer reading and confirm that the reading is not greater than the miles recorded on the back of the Certificate of Safety. (If odometer reading is greater, the Certificate of Safety has expired.)

Driver Starts Engine, Activates All Interior Lights and Checks:

S	U	
<input type="checkbox"/>	<input type="checkbox"/>	Steering Wheel
<input type="checkbox"/>	<input type="checkbox"/>	Windshield Wipers and Washers
<input type="checkbox"/>	<input type="checkbox"/>	Heater and Defroster
<input type="checkbox"/>	<input type="checkbox"/>	All Interior Lights
<input type="checkbox"/>	<input type="checkbox"/>	Horn
<input type="checkbox"/>	<input type="checkbox"/>	Service Door (open & close)
<input type="checkbox"/>	<input type="checkbox"/>	All Mirrors (adjustments)
<input type="checkbox"/>	<input type="checkbox"/>	Sun Visor
<input type="checkbox"/>	<input type="checkbox"/>	Emergency Exits (windows & doors) and Alarms
<input type="checkbox"/>	<input type="checkbox"/>	Clutch (if applicable)
<input type="checkbox"/>	<input type="checkbox"/>	Braking Warning Alarm

S	U	
<input type="checkbox"/>	<input type="checkbox"/>	Controls and Indicators
<input type="checkbox"/>	<input type="checkbox"/>	Ammeter (voltmeter)
<input type="checkbox"/>	<input type="checkbox"/>	Gear Shift Lever
<input type="checkbox"/>	<input type="checkbox"/>	Neutral Safety Switch
<input type="checkbox"/>	<input type="checkbox"/>	Water Temperature Gauge
<input type="checkbox"/>	<input type="checkbox"/>	Fuel Gauge
<input type="checkbox"/>	<input type="checkbox"/>	Vacuum or Air Pressure Gauge
<input type="checkbox"/>	<input type="checkbox"/>	Odometer
<input type="checkbox"/>	<input type="checkbox"/>	Switches
<input type="checkbox"/>	<input type="checkbox"/>	Driver's Seat Belt

Drive Bus Forward and Apply Brakes

S	U	
<input type="checkbox"/>	<input type="checkbox"/>	Service and Emergency Brake Operation

REMARKS _____

Signature of Driver _____

Signature of Mechanic Making Repairs/Adjustments _____

Date Repairs/Adjustments Completed _____

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